

GREAT LAKES TECHNOCRAT

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GREAT LAKES TECHNOCRAT

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Illustrating the Futility of Price System Methods of Operation; Interpreting the Trend of Events from the Social Aspects of Science; and Presenting the Specifications for Total Mobilization for Peace!

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Call for Miss America

Are Women People?

By Louis Verhovic, 8141-15, and The Peripatetic Technocrat

They talk about a woman's sphere as though it had a limit;
There's not a place in earth or heaven,
There's not a task to mankind given.
There's not a blessing or a woe,
There's not a whispered 'yes' or 'no,'
There's not a life, or death, or birth,
That has a feather's weight of worth
Without a woman in it.

(Kate Field, American journalist, 1840-1896)

To Whom It May Concern

FRANKLY, this is an open message to the mothers, wives and sweet-hearts of the men of North America. World War II is scarcely over, and already there is talk of another war. Accompanying this talk many business economists are predicting another depression, the granddaddy of them all.

Women of North America, are you willing to sacrifice your men in another crusade for more income and business through another war? Are you willing to accept another and more serious depression, with more unemployment, more relief, more WPA?

These two choices are all you will ever get under the Price System of trade and commerce we all exist under today. Events of the past 30 years confirm this. It has been one merry-go-round of hell from war to boom to depression to war. Now we are in an artificial boom. We're floating around in the stratosphere of a false prosperity upheld only by a gigantic cloud of debt. When the next depression comes, we'll drop farther faster and hit bottom harder than ever before.

Please think this over, Ladies, while you wait in line for food, pay holdup prices for common staples, or search

vainly for a place to live. Remember the glowing stories 'free enterprise' handed us a few years ago about that chromium-plated world we would get after 'Johnny comes marching home?' Well, Johnny is home now, but——? Now, Johnny is also paying through the nose to good old free enterprise. It's been pretty much of a letdown so far, hasn't it?

It's time the women of North America began asking themselves: 'Are women people, too?' If not, why not, and, let's do something about it!

Vote One Gang Out, The Other In

On August 26, 1920, the women of the U. S. (so they were told) were emancipated. They were given the right to vote. This political benefaction means very little when we note that women still do the same things they did before the 19th Amendment was passed.

What were they emancipated from, the Price System of trade and commerce? No, because women are driven by the same economic compulsions and fear of insecurity as men. Were they freed from servitude to some male moron who holds the family purse string? Not so most of them can notice it. Women still perform the

myriad of household tasks, bear children, raise families.

This magic emancipation consisted of transferring them from the status of non-voters to that of voters. They can now put X marks where, before, the law said that they could not. X marks the spot where not only women but men also are perpetually deluded by the status quo. Here are the words of an expert on the subject of voting:

If you put Judas Iscariot on the ballot he'd get 1000 votes in Shelby County (Memphis). (Edward H. Crump, Democratic boss of Tennessee.)

Mr. Crump knows what he's talking about. Very little choice is given you at the polls. You are privileged to approve some individuals out of the contestants. That is about all. Very few people know any candidates personally. We have no choice in selecting them and no say-so on what goes into the party platform. As soon as the election is over, the winners forget about their promises until election time rolls around again. Then it's the same old story. X has been called the mark of ignorance. However, the women of North America are not as insignificant as the politicians think.

Hands That Wear A Wedding Ring

According to *Public Service Magazine* of April, 1938, the function of homekeeping is actually, by far, the largest industry in the U. S. A. At that time it employed 32,000,000 women to operate 32,000,000 homes and spent \$30,000,000,000 annually for goods and services. Home keeping is concerned with the prime function of living and raising the coming generation. It is probably the most important single function in our whole economy. Yet, housewives are looked down upon to a great extent.

Homekeeping is not all that women do in modern society. They also help

to operate our schools. They are widely employed in distribution of goods and services. Many thousands work directly in production at skilled occupations. There are women technicians in nearly every field. There are women doctors, engineers, and scientists. In fact, women today are a part of North America's technological structure. As such, it is their duty to analyze and understand the characteristics of the social system we all live under.

Women must assert the fact that they are people too; in fact, half of all the people. Whatever undermines the General Welfare of men affects women to an even more intense degree. They are the keepers of the fire. Therefore, it is up to women to investigate the underlying operations of our social system; to uncover the physical forces, such as the march of industrial development, that determine our standards of living.

North America's problem is much greater than a question of who shall pull strings in Congress, or whether a three-mill levy is necessary for County welfare. The great need of today is for an overall, scientific plan of National social operations. We need a social setup that will banish unemployment, relief, poverty, ignorance, disease and insecurity from this land forever. It can be done. The urgency of the times dictates the installation of such a system; otherwise, we face chaos. Many women are beginning to realize this. More will do so as physical events bring greater pressure.

Land of Topsy-Turvy

For generations we have been taught to look up to the political, educational, business and clerical influence in society. Free enterprise has always told us: 'What is good for business is good for you.' The professors have always told us that only a 'sound' edu-

cation could save us. The preachers have always told us that to get a 'good' world we must first be 'good' ourselves. The politicians have played both sides of the streets, and the alleys also.

In spite of all these preachments about how to raise the General Welfare, it declines lower and lower. In the last 30 years North America has muddled from one bad mess into another. Crime, delinquency, divorce, education, public health, and the real living standards of the people become worse all the time. Uprightness and decent civilized living becomes harder to attain every year. There must be something wrong with our social system, somewhere. There certainly is. The fault lies in our overall methods of social operation.

A scientific analysis shows that the social institutions of the Price System and their operating methods are outgrowths of the underlying system of trade and commerce. This system grew up during the long ages of natural scarcity and crude handicraft culture that preceded the age of science. It is called a Price System because it is organized to carry on exchange of goods and services for a price on a basis of value determined by scarcity. This type of system works well enough when human toil and hand tools are the means of production. This is because handicraft methods can never produce enough to eliminate scarcity and thus destroy value and price. However, since the age of science began, it's a different story. The development of science has given us nearly all the worthwhile things in modern life by multiplying our ability to produce. The rub is that the Price System and its social institutions have not developed accordingly. They are still rooted in the past from whence they came.

Indeed, it is impossible for a Price

System to adapt itself adequately to science and technology. One or the other must dominate because there is an incompatible difference between them. Science presses ever forward toward abundance. The Price System pulls ever backward toward scarcity. It must have either natural or artificial scarcity to exist. This explains all the with-holding strikes by business in the last few years.

Greatest Story Ever Told

The full case of science against the Price System is too long to go into here. However, the whole record has been worked up by Technocracy Inc. It is the greatest story ever told and because it consists of facts can never be refuted. Opinions can't change facts. Technocracy Inc. has spent the last 26 years analyzing and studying the course of physical events in world history and particularly in North America today.

It has traced the development of science and technology within the framework of the Price System. It has tabulated the impact of these new physical forces upon the ancient Price System and recorded their effect. It has demonstrated that our major social problem of 'want in the midst of plenty' arises from the inability of the Price System to adapt its institutions to the needs of this day and age. It follows that if we solve this major problem nearly all our other social problems will disappear automatically.

Technocracy Inc. has had nothing to do with causing the condition that America is in now. It has merely analyzed it, and drawn up social blueprints for its solution. This is the same thing a doctor does when he analyzes an illness and prescribes a remedy. Technocracy does not blame anyone; nor does it advocate overthrowing the government. It's not

the government's fault. It's not anyone's fault, in particular. The blame lies with the Price System. That means all of us, and all of our social institutions and methods of operation. This is so because that is what composes the Price System.

Technocracy Inc. is a non-profit, non-political, non-sectarian, scientific, educational membership organization. Its purpose is to spread factual information about North America's social problems; together with the necessary remedial steps that must be taken to solve them.

Do not be awed by the statement that Technocracy Inc. is a scientific organization. This does not mean that you have to be a long-haired professor with a slide rule in order to understand Technocracy. It merely means that Technocracy seeks to apply the scientific method to social problems, to replace our present muddling business and political methods.

The scientific method is simply a study of facts and a system of procedure that goes from cause to effect in logical order. Any person with average brains can do this. No one has a monopoly on the scientific method or a patent restricting its use. Science furnishes the only method of social operations that can solve North America's problems.

A major social change is long overdue on this Continent. All the signs point that way. By social change Technocracy does not mean merely a few minor reforms to correct some of the worst abuses of the Price System. The social change that is coming will be nothing less than a complete break-up of the whole mess. It will involve a full reorganization of our entire social system along scientific lines to bring it into step with the modern march of technology.

I Withdraw My Consent

When this critical point is reached, the only alternative to such a forward step will be a relapse into social fascism. Remember what fascism did to Women of Europe? It made family slaves and brood sows out of them. That is the gospel of fascism for women. Don't take this writer's word for it. Just examine the condition of women in authoritarian, fascist countries where business, politics and clericalism rule the roost. There are plenty of such countries today. They are very backward in their scientific and technological development; but very advanced in their enslavement of women.

Technocracy Inc. is engaged in the greatest project in human history. It is one that challenges the intelligence, courage and maternal love of every woman in North America. An investigation of this project will open up a new perspective of modern life to every woman. Technocracy invites your participation. Join with the Technocrats; attend the Study Classes; participate in their many educational activities. It is imperative that North American women unite with their men and march shoulder to shoulder toward a common objective.

The reward is a new America of Abundance. It will be free from poverty, disease, ignorance, low living standards, insecurity, politics, business, clericalism and the tyranny and regimentations of the Price System of trade and commerce. Count them, one by one. Their name is legion. Among them is the ages-old inferior position of women. Up-to-date the women of North America have given silent consent to this miserable status quo. It is not necessary any more. A new America is possible and practical, right now. When that great day comes, women, for the first time in human

history, will be placed upon a plane of social, sexual, economic and intellectual equality with men. There will be equal opportunity for all people, regardless of race, creed, color or sex in all fields of social operation.

Women of North America, withdraw your consent from the ancient Price System! Turn a deaf ear to the pleadings of the dead past! Look to the future! Give your consent to the

New America of Abundance. It awaits with you an appointment. It beckons to a rendezvous with destiny, the destiny of a Continent. A higher civilization struggles to be born. You are the keeper of the fire! Make sure it blazes brightly! Make sure that it drives back the dark forces of fascism. Make sure that it lights the way to the New America of Tomorrow! *You have the most to gain.* Make sure!



A Technological Problem

The Army, in cooperation with the Forest Service fire control division, is developing a new method to fight forest fires which promises to be successful. It is a combination of plane-carried water bomb and radio proximity fuse. The water bomb idea has been tried before with but little success because no efficient way could be devised to release the water before the container hit the ground. A large water-filled container could be dropped from a plane but when it hit the ground, the water spilled out into too narrow an area to be effective. The new method was recently outlined before the House Appropriations Committee by P. A. Thompson, Chief of the Forest Service fire control division. He is quoted by the *Wall Street Journal* of February 28, 1946, as follows: "That project was not considered feasible until the development of these so-called proximity fuses. They have a radio set in them by which they can spew the water out at any predetermined elevation above the terrain." That's all there is to it. Simple, eh? Yes, but it takes technology.

"Organized fire protection really protects forest lands. That is one of the points easiest to see in the summary of the forest fire record for 1945 as issued by the U. S. Department of Agriculture. Fire protection can never be perfect and fully protect timberland. But in 1945, one-fifth of the forest land was classed as "unprotected." This 20 percent of the area accounted for 59 percent of the number of fires, 86 percent of the area burned, and suffered 72 percent of the estimated damage caused by forest fires.

"Stated the other way, the 80 percent of the forest area that is protected had only 41 percent of the fires, accounted for only 14 percent of the area burned, and for 28 percent of the estimated damages. A protected forest acre clearly has a much better chance of maturing a profitable timber crop. During the year there were 124,728 fires as compared with 131,229 in 1944, or 6,501 fewer. Despite the decrease in the number of fires the area burned over increased by more than a million acres."—U. S. Department of Agriculture, *Clip Sheet*, August 11, 1946.

'Land of the Sky Blue Waters'

Today We Are Civilized

By Harry Smith, 8342-1

Before the white man brought his ancient Price System to North America, a tribe of Indians hunted and fished in the area adjacent to the west and south shores of Lake Huron and Superior. They were the Ojibwa tribe of Algonquin Indians. Now, the Ojibwa had a legendary hero of miraculous birth, whose name was Hiawatha. He was the son of Mudjekeewis, the West Wind, and Wenonah, daughter of Nokomis, the child of the Moon. Hiawatha was sent by the West Wind to live among the Ojibwa tribe. Mudjekeewis gave him a definite assignment which, in the words of Longfellow, was to 'cleanse the earth from all that harms it, clear the fishing grounds and rivers, slay all monsters and magicians.' It is reported that the Ojibwa hunted and fished happily until the white man came with his ancient Price System.

Of course, this is a myth dreamed up by 'poor dumb Indians.' Today we know better. We are civilized. On the southern edge of the old Ojibwa territory is now located North America's greatest mass production industrial center. Where Lake Huron empties into Lake St. Clair and connects with Lake Erie, there squats that modern monster of the Price System known as the city of Detroit. Today most of the forests where Hiawatha hunted are gone. The clear streams and lakes where the Ojibwa fished are now foul with toxic substances and pathogenic bacteria, excretions of the monster who dwells on their shores. Millions of 'free-born' Americans drink and bathe in dirty, stinking disease-breeding water. Detroit is not unique in this advanced stage of Price System culture. The same story, with suitable variations can be recorded of a dozen other industrial centers.

As the American Price System becomes more rotten with decay, no doubt the 'free-born' human components thereof will enjoy ever greater cultural advantages. The day may come soon when pure water will be placed on exhibition in our museums. After all, we believe in culture, don't we? Then again, the day may come soon when the lousy Price System will go the way of all decadent systems. Then something effective can be done about North America's water problem. Science and technology have the answer.

In the meantime we can't help but wonder whether the spirit of Hiawatha still broods darkly in some remote fastness of the Great Lakes area. Maybe he is waiting for the time to go forth again and: 'Cleanse the earth from all that harms it.' But, no, that's only a myth dreamed up by 'poor dumb Indians.' Today we know better. We are civilized. Yet, somehow, that dictum of the West Wind seems to make sense.

A Glass of Colon Bacilli, Please

ABOUT one-third of the inhabitants of Michigan, over 2,000,000 people plus over 100,000 residents of Ontario, depend on the St. Clair River, Lake St. Clair and the Detroit River for drinking water. The *Detroit Free Press* to whom we are indebted for most of the data in this article says that this waterway is the 'most traversed waterway in the world.' It is

a part of the largest system of fresh water on earth, yet the people living on or near its shores are condemned to drink and bathe in filth. The list of diseases that may be contracted through the use of contaminated water is long and deadly, including the dreaded poliomyelitis.

The two sources of pollution are sewage from habitations and industrial refuse. From hundreds of ditches,

drains and city sewage systems a foul, slimy, bacteria-infested mixture pours into the peoples' water supply. During the navigation season, two continuous lines of vessels, one going upstream and one coming down, add the juice from their toilets and the garbage from their galleys to the flowing cup.

At the head of St. Clair River, the outlet of Lake Huron, are two cities, Port Huron and Sarnia. Here is where pollution begins. Detroit, sixty miles downstream, is affected. At times, as in March 1944, Detroit water picks up a disagreeable taste. At that time a test showed that the foreign substance came from a synthetic rubber plant near Sarnia owned by the Canadian Government.

On its way down, the St. Clair River picks up corruption from the city of St. Clair, Marysville, Algonac and Marine City which it pours into Lake St. Clair. Along the west shore of this lake are located the towns of New Baltimore, Anchorville, Pearl Beach, Grosse Pointe and St. Clair Shores. Between these towns are thousands of summer cottages. This area is one of Detroit's largest playgrounds. Here people go to bathe. Here sewage from Mt. Clemens and southern Oakland and Macomb Counties is dumped. In all, seventeen drains smear the lake. Milton P. Adams, executive secretary of the Michigan Stream Control, quoted in the *Detroit Free Press*, August 27, 1946, states: "The use of public or private bathing places on Lake St. Clair near drain or sewage outlets violates elementary sanitary standards."

The outlet of Lake St. Clair is the Detroit River. Detroit and Windsor stand at its head waters. Although Detroit and Wayne County have installed sewage treatment plants, which handle the bulk of the waste for the Detroit Metropolitan area, the

people here suffer from pollution carried from points upstream. Heavy chlorination is the cities' only protection. At times so much chlorine is used that a glass of water tastes like a dose of medicine.

Public bathing beaches, such as the Belle Isle beach, the most convenient for the masses of people living in Detroit, are often closed during the hottest months when these facilities are most needed. Health authorities close beaches where water is polluted to a dangerous degree. Beach owners then bring cases before the courts contending that water is 'clean enough' for swimming.

The further down river you go, the worse it gets. Waterfronts of down river towns, River Rouge, Ecorse, Wyandotte, Riverview and Trenton are literally unusable except for industrial purposes. Pollution is foulest where the Rouge River empties into the Detroit River. At Grosse Isle a bacteria infested scum coats the surface of the water, and everything it touches, widening into a great black blotch as it flows into Lake Erie. The St. Clair and Detroit Rivers get so filthy at times that the pollution changes the color and taste of the fish and often kills thousands of them.

'Slay All Monsters and Magicians'

The whole subject of water contamination is a stinker. It isn't nice to think about. It isn't nice to talk about. But here it is.

Why does this menace to public health and wholesome recreation continue to exist and grow worse with every step in industrial expansion and every increase in population along this waterway? Science and engineering long ago devised methods of sanitary sewage disposal. Why haven't they been installed?

The answer is Business and Politics. Corruption of water supply is

just another case of Price System interference with public health. Pure air and water necessary to life were given to us in abundance by nature. Business is taking them from us. Business has fouled the air with its exhalation of smoke, soot and noxious gases. Business has contaminated the water with industrial excreta.

Profit, not public health, being the motive of business, public health gets slight consideration. The cost of installing reduction plants for industrial waste would cut into corporation dividends. Dumping waste products into rivers and lakes saves money. Pollution pays!

Residents of down river communities have made no headway in their fight for clean water. During the war years, factory owners stated that they were too busy filling war orders to be bothered with pollution problems. Now they are too busy producing peacetime goods. When a depression, which will most probably follow the present boom, hits them their excuse will likely be that they can't afford it.

City and County plans for sewage treatment plants are often held up by lack of funds. The long range downward trend in assessable property valuation pushes the tax rate up, and expensive projects boosts it still higher. Tax paying voters howl and politicians listen.

Building costs are holding up construction of sewage disposal plants. Bids are exceeding estimated costs. The cost of Detroit's plan for waterfront development with parks, playgrounds, boat wells and swimming pools has been estimated at \$28,000,000. Where will the money come from? Detroit's sewage treatment system has already cost \$24,000,000. The Michigan Stream Control Commission states that since its construction 'whatever gains were made have been offset by new sources of pollution.'

The cost of cleaning the sludge-covered bottom of Sterling State Park Beach has been estimated at \$1,000,000. A \$2,000,000 St. Clair Beach project is being delayed pending the settlement of the Mt. Clemens' sewage disposal program delayed by building costs. Up river, down river, across land and water, Price blocks the way to health.

Politics, an adjunct of business, has a hand in this miserable mess. Politics as usual, stalling, buck-passing, meeting, voicing opinions, passing resolutions, utterly incapable of solving a technological problem. Then, too, there are interferences set up by political boundary lines. The international line between Canada and the United States follows the water system here discussed. Although an International Joint Commission has been appointed to study the source and extent of pollution, it has no authority beyond 'recommending' remedies.

Establishment of adequate pollution prevention regulations would likely necessitate a change in the Admiralty Laws of both countries, a political procedure involving a great many economic interests that might take years to settle. The economic and political interests of five counties and twenty-one towns and cities must be compromised before any broad overall plan can be conceived and executed by our politico-economic system. This is practically impossible.

Unite And Operate Properly

The problems of public health are technological problems which can be solved only by scientists, engineers and technologists, free from the interferences of business and politics. It is precisely this sort of non-business, non-political, continental technological control that Technocracy proposes.

A consolidation of the entire North

American Continental area into a Technate would wipe out all city, township, county, state, provincial and national political boundary lines, permitting an overall, coordinated design of operation.

Technocracy's engineers have designed a system of Continental Hydrology for flood and erosion control, irrigation, transportation, climatic modification, recreation, and adequate pure water for human consumption. Development and control of the Great

Lakes Water System is part of its design.

Not until Technocracy's Continental Hydrology system has been put into operation will it be possible to get pure drinking water in many industrial centers. Solution of North America's water problem will be one of the top objectives of the Technate. It will be solved then—but not before then.

Join Technocracy, and help to build a clean, New America!

From Here on Out

Keep Your Eye On The Trends

by R. F. Novalis

Increasing Trends..

	All-Time LOW	Latest HIGH Figures*
1. DEBT (U. S. Govt.) per person.....	January 1, 1840 \$0.21	1,914 Dollars
2. ENFORCED LEISURE (unemployment.....)	October 1944—630,000	2,150,000 People
3. MACHINE TOOLS in use** (cumulative total).....	1925.....700,000	1,884,900 Machines
4. BANK LIQUIDITY (percent deposits to reserves, Federal Reserve Banks).....	1921.....60.0%	98%
5. GOVT. (U. S.) BONDS to total bank invest- ments (Federal Reserve Banks).....	1929.....39.0%	92%
6. GOVT. (U. S.) BONDS to total life insurance investments.....	1915.....0005%	63%

Decreasing Trends

	All-Time HIGH	Latest LOW Figures*
1. PRODUCTION (combined factory-mine-railroad freight) Index basis 1919-20 monthly aver- ages equal 100.....	Oct.-Nov. 1943—250	172
2. MAN-HOURS WORKED (total of man-hours in factory-mine-railroad) (Note: 1919-20 month- ly average was 2.54 billion) Actual number.....	Oct.-Nov. 1943 3.14 billion	2.26 billion
3. MAN-HOURS PER UNIT in above industries, combined average.....	1919-20=100	41
4. ENFORCED SCARCITY (load factor on installed capacity of above industries).....	No Figures	24%
5. INTEREST RATES (combined average yield on Govt.-municipal-corporate bonds).....	1919-20 6.12%	1.68%
6. OSCILLATION DOWNWARD of factory output since all-time peak (Oct.-Nov. 1943).....		32%

*July-August, 1946, Two-month Average.

** No figures available on number of machine tools scrapped

Oldest Racket of Them All

Taxes—They Support What?

(Part 1)

By A. E. Borel, M.A.L.

Remember the old saying that only two things on earth are certain, namely, death and taxes. Well, at least 50 percent of that old saw is Price System propaganda. Death comes to all men in equal measure, but not taxes. Some get off lightly, some pay heavily. It depends on how good a chiseler you are. Death is unavoidable as far as we know. This article does not deal with it. Its story is concerned with the 50 percent of that old saw composed of bunk.

If you want to know what taxation is, how it started, how its original purpose was prostituted by the Price System, and what its true function is, you cannot afford to miss this serial. Most articles about taxation are dry as dust, but not this one. The ending will surprise you. It will give you a new slant on Technocracy. Due to its length, we are compelled to print this story in three parts. Don't miss any of them. Here is part one.

Jack: 'Hello, Bill, Going my way?'

Bill: 'Yes, Jack, I am. Glad to see you this fine morning. If it wasn't such a nice day, this job of figuring my income taxes would be getting me down. How do you make out on it?'

Jack: 'Oh, ho, so you are a worried man about taxes, eh, Bill? How about living in a Technate where you won't have to worry about taxes. Be kind of nice, wouldn't it?'

Bill: 'You said it, Jack. It is quite a chore to keep up with taxes, and yet we have to do it. You did prove to me that we didn't own anything, really. Yep, even the money we receive as pay is taxed, and that tax can be raised or lowered at will, to include or exclude as many types of income as desired. If I don't tell the truth about my income, they can fine me, put me in jail, or both. So, I don't even own my income.'

Jack: 'We call that the "workings of a free democracy" Bill, but I have a hunch that an awful lot of people would forget to let their patriotism be their guide if there were no penalties. We all know that any gov-

ernment has to be supported, and the only way it can raise money is by taxation in some form or other. But we all have the same kind of psychology when it comes to taxation. I have never seen anyone yet who donated cheerfully.'

Bill: 'You said "donated," Jack. What do you mean by that? A donation is a gift. When you donate something you don't expect anything back. We expect to get something back from our Government when we pay taxes. We get lots of services from our Government.'

Jack: 'Yes, Bill, that is true. We do get lots of services back from our Government. More so, probably, than most any other government. Have you ever stopped to figure all the things that our Government is trying to do on taxpayers' money? That may sound foolish in view of the comments on all sides deriding the Government for its manner of "squandering" money. But, it's a fact to bear in mind as we go along. There are many services being performed by any government, but most particularly ours,

for which the average taxpayer can hope to receive no returns. Aren't we merely "donating" this money?"

Bill: 'I suppose so, Jack. But the other time we talked about taxes you called them a "rental." How come?'

Jack: 'Fair enough, Bill. All taxes are a rental. They are the rental we have to pay merely to live where we live. Much of the time, for most people, this rental takes the form of a "donation," but we've got to pay it just the same. Most of us can't get away from it. But there are some people who can't pay this rental, so other people have to do it for them. This is the point at which our society and most societies since social life began have fallen down. We have failed to realize that for each person who is unable to pay this rental (taxes) someone else must pay it for him. In some form or another, taxes are the rental someone must pay so that they themselves, or someone else, can live.'

'You see, Bill, there are many ways of paying taxes. They do not always have to be paid in money, as you will find out later. The tax that you pay that someone else may live is a "donation." You don't get anything back except the satisfaction of having done a duty. Every one who is able, whether he be a Democrat, Republican, Fascist, Communist, or Technocrat, must pay this tax.'

Bill: 'Well, Jack, what in the world kind of a tax is that? Technocrats say you don't have to pay taxes in a Technate, yet you try to tell me that the Technocrats will have to pay taxes!'

Jack: 'Bill, this is only my own way of analyzing taxes. I feel that this matter of taxation has never been thoroughly studied. That is, we have always approached the subject with preconceived notions and ideas

so the true meaning of taxation has been lost. If you have the time, I would like to give a brief review of the beginning and growth of taxation.'

Bill: 'Go ahead, Jack. I feel that taxation is one of the most vital subjects with which we must deal, so it's time out for me while you elucidate.'

Jack: 'Thanks, Bill, but first let me give you what Webster says about taxation. It will help you a lot if you will remember these terms when I speak of taxes. Will you do it, Bill?'

Bill: 'Yes, I will, Jack, but you can remind me about them once in a while because there is too much for me to keep in mind.'

Jack: 'I'll do that, Bill. Here is what Mr. Webster says: "Taxes, noun, (a) a burdensome duty; (b) an exaction; (c) a contribution levied by authority."'

Bill: 'Some hard names, Jack.'

Jack: 'You bet, Bill, and please note that in none of these expressions is there any indication that taxes are considered a "just" duty. From these definitions, Bill, it can be seen that a return service from the Government to the taxpayer in return for the payment of taxes is not necessarily inherent in the idea of taxation. Remember that. That idea has been developed gradually in the minds of the people, that is, that they are entitled to get something back for their taxes. At first, they accepted taxation exactly for what it was, and is, "a burdensome duty." Before I am through, you will realize that the average taxpayer gets back, personally, only a small portion of his tax money in services. Taxation is a lottery, we all pitch something into the pot, but only certain ones draw anything out. For instance, we all pitch in to support a fire department, but

only the guy whose house is burning down has use for it.'

Bill: 'I guess most people consider it that way too, Jack.'

Jack: 'Well, here we go on the green light, Bill. In the very earliest dawn of social life on this planet, certain men began to be leaders in their community. Since studying Technocracy's Study Course, I might guess that these were natural born leaders. They were the number one men in their communities. Whether they were "good" or "bad" leaders is immaterial to our point. At first, these leaders were leaders, most likely, because they were always in the forefront of every action, they were leaders because of their ability and courage. The time came when many were leaders because of their cunning, the monopoly of tricks amongst a select few and the maintenance of the greater number in ignorance. At first, the leaders probably helped provide and produce the necessities of life and took part in all community activities. A time came when the leaders sat back and ordered instead of leading. When that time came, Bill, the leaders no longer providing or producing the needs for their own sustenance, commanded that these be furnished to them by *right of their leadership*. You know, my friend, it is not many decades since civilization cast off its belief in the divine right of kings. Thus, probably, was created the first form of taxation. It was the furnishing of a living to the leaders of the community, the head man of the tribe, the medicine man, later the priest and the king.'

Bill: 'Whether or not that is the way it happened, no one knows for sure, Jack, but it makes a pretty good story. It certainly sounds reasonable. We have very few facts on which to go. Please go on.'

Jack: 'Thanks, Bill, but I won't mind your arguing the point, if you don't agree. Anyway, that is only the part of our story dealing with how taxes began and how they operated in the past. And that is where, I say, all societies have failed to grasp the true function of taxation. In the past the members of a household, tribe, community, clan, or nation donated or bestowed upon the head man, witch-doctor, priest or chief, part of the spoils of the hunt, the produce of forest and field, the catch from river and lake. For this they received some service in return, but knowing the set-up as we do we may feel fairly safe in saying that most of this service went to a favored few. The point I wish to make though is that it was taxation, remember the definition "a contribution levied by authority." It was for a specific purpose, the support of that authority. Let's call this authority, Government.'

'But there was another donation made at that time which history or the story books do not relate. It has never been mentioned because it never entered anyone's mind to consider it as a donation. That other donation was for this, the support of the young, the old, and the helpless members of each family. In the light of future arguments along this line, we will find this an important point. It is necessary for me to show that this support of the members of one's family is, actually, a form of taxation.'

Bill: 'Do you mean to tell me, Jack, that the support of one's family is a form of taxation?'

Jack: 'Yes, Bill, that is exactly what I must do to prove my point. We can only guess at how early man divided up his food among the members of his household, but divide it up he did. He must have. Let us take just one small family,

a father, mother and one child. The father furnished the food, the mother did the cooking, the child did nothing. In other words, the father and mother each exchanged services, they contributed something to the arrangement, they compensated each other's service. The child had nothing to give, there was nothing it could do. Do you get it, Bill?

Bill: 'Yes, I can understand that, Jack.'

Jack: 'The action which takes place here, Bill, is so ordinary that I know of no case where it has ever been called into question. Yet we have here the most elementary form of taxation. The father and mother each tax themselves for a certain portion of their food, their clothing and their shelter to supply some one else who has nothing to give in return. This is a natural instinct, fundamental in all life where a parent takes away part of its own to give to its offspring. It not only gives part of what it obtains, it will even deny itself that its offspring may receive. This is the second of the two greatest instincts in life, self-preservation and reproduction.'

'No matter how much we may philosophize about this act, the fact remains that it is a form of true taxation. It is the levying of a tax by an individual upon himself to give to the support of another. The fact that this other one is a member of his own family and household does not alter the matter in the least. By giving support to this other, he is depriving himself. It is an exaction, it may even be a "burdensome duty," and that is taxation.'

'When man began his social life, without a doubt all things were shared in common. That being the

case we can readily surmise that when the spoils of the hunt or fishing were divided up each family was given its share according to its needs. Advancing our story from the family to the community and applying the same measuring stick, we can see, now, that the community in like manner to the family taxed itself to provide for the support of those who could not provide for themselves. Of course we realize that in some civilizations incompetents were liquidated but that is beside the point and proves nothing. So, let's resume.

'In this community it was not a question of each father providing for his own without help from the others even though he was responsible for their existence. Whenever that was the case, the family probably soon perished. So those who hunted and those who cooked each gave service amongst themselves which was compensated for by some other service. But each, also, deprived himself or herself to give to those who had no service to give in return. That, also, was true taxation. At times, it may have been a burdensome duty. Have I made myself clear, Bill? We must get a clear perspective, we must get away from a lot of fanciful ideas we have had.'

Bill: 'Well Jack, I'd rather you go on. I know that isn't the end of the story.'

Jack: 'All right, Bill, but I want to stress again this one point. Each family received according to its need and not according to the ability of the man of the family to provide or the mother to cook. This simply had to be the case, because each was so completely dependent upon the other. Each member of this primeval community, then, who was able, male and fe-

male, taxed themselves, *first*, to provide a living for the dependents of the community, and *second*, to provide a living for the head men of the community. I think I am safe in saying that the headmen came second in this early community. That, to our shame, is not the case today.

'What I am trying to drive at, Bill, is so unique I don't know how to state it. I am trying to say that, in early communal life, all members partook of the living provided but that somewhere along the line we got the idea that the head of each family was responsible, solely, for his whole family for better or for worse, and the burden was shifted to his shoulders. From that time on the family no longer received assistance from the state, if we care to call it that. Each family was on its own. The taxes of the community shifted from the support of all members of the group as number one to the support of their headmen as number one. There was no number two.

'Of course, Bill, this change came about unconsciously because no one ever looked upon the furnishing of a living to the members of the family or group as a form of taxation. What probably happened was that the headmen started demanding more which resulted in families getting less. By and by the headmen demanded so much from each family that no one family had much of anything left over to give to its neighbor. As the power and demands of the headmen increased the poverty and wretchedness of the people increased. In time the entire scheme developed into a system of great splendor and display through the donations, the taxes, of the people; whereas the condition of the people was such that it is referred to by the ancient writ-

ers as "the grinding of the faces of the poor." The thought that the group was responsible for each of its members had been forgotten long ago, so the parents have ever since been left to fight it out alone. A very few small concessions have been made in recent years. Unconsciously, today, we admit that supporting a family is a form of taxation. In our income tax system, the larger the family the less the income tax. It is a form of saying, "You are taxing yourself to support your family, so we will demand less tax from you to support the people in Government." However, the state sales taxes throughout the country are one of the most unfair forms of taxation imaginable. The larger your family the heavier the tax you must bear, regardless of the size of your income. It reverses the process of taxation with respect to the income tax. It penalizes the man with the large family. Do I make myself clear, Bill?'

Bill: 'You sure do, Jack, when you put it that way. Take my case, for example. My wife and I have raised seven children on the same salary and sometimes less than many another in my same station in life who has only had a wife and himself or maybe one child to support. With all the bills I've got, how can I possibly compete with this other man? What chances do my children have? I've often thought of the discrimination in it but, like you say, we have all just accepted it as one of those things. We have accepted it as a "duty." We, of course, wouldn't call it a "burdensome duty," but, because the burden did get heavy sometimes, we would call it a "burden of love".'

Jack: 'Yes, Bill, we call it a "burden of love," and through centuries

of time people have suffered under the indignities of it. We Technocrats realize that nothing could be done about it because of ever-prevalent scarcity. The moral rights or wrongs of things never have counted, except on a very small scale for a very few people. The moral rights or wrongs of things have

never yet solved one physical problem. Today, the moral right or wrong of whether a man is responsible, solely, for the upbringing of his family will fall before the onslaught of the tide of abundance.' Bill: 'How is this going to be done, Jack?'

(continued in the next issue)

'Pop' Lays It on the Line

Value is defined sometimes as the measure of the pressure of the force of desire. Of course, an undefinable desire cannot create any financial value or create any demand. He who is without debt claims is unable to make demands. Did you ever think how much time is worse than wasted, creating desire on the part of people who are not in a position to demand? Financially 40 percent of the population cannot demand anything not necessary to a bare existence, 92 percent cannot demand enough to create a decent market. The 8 percent that can buy have all they can use. Who made that kind of rules?

When human beings supplied a large share of the energy necessary to operate the social mechanism, it was necessary to develop the morals in order to get the work done. 'He who does not work neither shall he eat,' and 'by the sweat of thy brow thou shall eat bread' was preached by those who were above work and ate the best. The classical economist stated as a premise, 'Labor produces all wealth.' Poverty was maintained to preserve power in the hand-powered age. We still preserve poverty in order to maintain the rules of a bygone age.

Most Americans are scheming or pipe-dreaming about muscling in some little jitney racket. Science and technology are

operating to dispense with muscle power by the use of automatic machinery. The sale of muscle power is becoming a wash out. The muscle man cannot even be a sucker any more. Better muscle out, Brother, the racket cannot keep up the pay-off. The would-be chiseler is the biggest sucker.

The great mass of people are quite incapable of thinking socially, as long as the environmental conditions permit them to pursue the even tenor of their ways without serious inconvenience. The margin have the capacity to anticipate and to prepare for changing social conditions before hunger compels them to. If you are a member of the margin, this is your invitation to join Technocracy and investigate its purpose and program, Now. Your response will indicate in which category you belong.

Brother, what is your racket? How are you plotting against the people to collect debt claims in order to live? Which gang do you belong to, to promote your social prestige as a spare time hobby in this culture of conspiracy? How many conspiracies do you help to promote in order to beggar the other fellow? There is one organization that recognizes that your interest is tied up with 200 million other Americans. How about a little check on Technocracy some time soon?

'When Apples Grow on the Lilac Trees'

What Price Peace?

By L. W. Nicholson, R.D. 8234 and the Peripatetic Technocrat

'War should be the only study of a prince. He should consider peace only as a breathing-time, which gives him leisure to contrive, and furnishes an ability to execute, military plans. — For war is the sole art looked for in one who rules.' (Nicolo Machiavelli, 1469-1527, Florentine diplomat and writer.)

'All the talk of history is of nothing almost but fighting and killing, and the honour and renown which are bestowed on conquerors, who, for the most part, are mere butchers of mankind—' (John Locke, 1632-1704, English physician, writer and philosopher.)

'There never was a war at arms that was not merely the extension of a preceding war of commerce, grown fiercer until the weapons of commerce seemed no longer sufficiently deadly.' (Brigadier General Hugh S. Johnson, U.S.A., 1882-1942, American soldier, lawyer and one time Administrator of the N.R.A.)

Music Goes 'Round and 'Round

IT IS generally agreed that war must not again be allowed to destroy men. Since we are agreed on this point, no further discussion is needed. However, it is not generally agreed as to the proper method to eliminate wars. Therefore, it is the means by which this may be accomplished which needs understanding.

Before repairing an automobile engine, it is necessary, first, to find the cause for its failure to operate. To eliminate wars it will first be necessary to find the cause and eliminate this cause. Thereby we may eliminate war.

What causes war? The answer can be given in one word, SCARCITY. Eliminate scarcity and not only war but crime, disease, poverty, ignorance, politics, free enterprise, fascism and all companion characteristics of Price System operations will automatically go down the drain.

World War II demonstrated that, as far as North America is concerned, we can eliminate scarcity at any time we are willing to give up business and politics in order to do so. These institutions are the cause of scarcity to-

day on this Continent. Abundance destroys value and hence price; profits cannot be made without price; business cannot exist without profits. Ergo: Scarcity is a MUST. Politics (the referee) cannot exist unless there is the struggle of scarcity acquisition to referee. Ergo: Politics must maintain the status quo. If you can disprove this, you will obtain the everlasting gratitude of business and politics. They will enshrine you above even Machiavelli and Adam Smith.

We, as a people, up-to-date, have been content to allow business and politics to tell us how to solve our problems. As a result, it is impossible to eliminate wars. What free enterpriser would be willing to go out of business; and what politician would be willing to resign from office as a patriotic duty to his fellow man? What newspapers, being business organizations, would be willing to print factual social information if it were given to them free of charge? How many upholders of the status quo could be expected to investigate far enough to get the knowledge necessary to realize that they as well as the balance of the population would

be better off if they removed their interference to America's destiny. The answer is that these gentry will consider this matter if, when, perhaps and but. In the meantime, business is business, so don't mess around with the applectart.

Echo Answers, Where?

Now, let's go back to our main theme, the elimination of war. Since scarcity is the cause of war and abundance the cure, it becomes obvious that no Price System international powwow can have the slightest interest in abolishing war. The forums and conclaves of these honorable gentlemen are but window dressing for the Status Quo. Back in the store, business goes on as usual by the time-tried rules of buy low, sell high and keep things scarce. There dwells the sacred white cow of Things as They Are. It is untouchable.

The Price System will try every means short of war to eliminate war. If these don't work, it will cheerfully go to war for the sanctified purpose of abolishing war. We have waged two world wars to end war in the last generation. Haven't we? You know the answer. Perhaps you were there, Charlie! Well, it may not be long now until some of us are there again. American pro-fascism is busy cooking up another war to end all wars. The next one will be a holy war against the dark forces advocating strange doctrines favoring the General Welfare.

Good old free enterprise and party politics will have no 'truck' with such foreign ideas. Why! They ain't even in the Constitution. Of course not, what kind of a Constitution do you think we've got? Well, yes, there was something said about stuff like that a couple of times in our history. There was Roger Williams (1609-1683), founder of Rhode Island. He contended that all the land belonged to

the people. There was Tom Paine (1737-1809), outstanding Revolutionary figure. He wrote something about *The Rights of Man*. And Abe Lincoln (1809-1865) said: 'This country with all its institutions belongs to the people who inhabit it.' But, these characters were considered 'Reds' in their day. And, we put them in their proper places, didn't we? You betcha! That foreign stuff don't go in free America. But let's get back to our theme again.

Open Sesame!

There is only one way under the blue dome overhead that war can be stopped. That is to scrap the Price System and install a technological social system. Atom bomb or not, you can depend on it that as long as the Price System lasts, there will be 'wars and rumors of wars.' Times almost without number, when internal social problems became acute, nations have adventured into the external escape of war. It's an historic pattern that has always worked. The Society of International Law of London, England, has estimated that in the last 4,000 years, the Price System has produced 8,000 peace treaties *but only 268 years of peace*. 'Blessed are the peace makers.'

The only potential on this earth that can stop war is the North American Continent organized into a technological system. Nothing else will avail. Technocracy Inc. has the design for this major social advancement. The price of peace is the scrapping of the Price System in North America and the installation of a Technate. Not a single human being need have a tangible thing to lose by this social change.

The Price System has nothing more to offer except more depression and more war. It has outlived its day. Its ancient, outworn concepts are in con-

flict with the rising power of science and technology. These alone hold the correct answers to mankind's cherished aspirations. The Price System is a 'has been.' It is wobbling badly in North America. The danger is that it may collapse before we are ready for that glorious event and carry all civilization with it.

So, get wise, Brother, get wisel
Quit looking for that which cannot
exist within the framework of the

Price System. Quit wishing and dreaming. Get to work and do something effective about war. Join Technocracy and work for the New America. If you expect the Price System to eliminate war, you must logically expect the Price System to abolish itself. When that day comes to pass, there will be a snow storm in hell worse than the blizzard of '86. And then, my friend, apples will grow on the lilac trees.

Never Sell the Facts Short

In the United States, people at first lived in a kind of hand-to-mouth existence. Many of them worked 12 to 18 hours a day. They had to work a good many hours because they couldn't turn out a great deal of anything with the poor tools and machines they had. They needed power machines on which to do the work instead of doing it by hand.

As the years went on they got more and more power equipment. The power used in making things in factories went up from 1.25 horsepower per worker in 1879 to 4.91 in 1929—nearly quadrupled in 50 years. It is estimated to be now about 7.25, almost six times that it was in 1879.

This increasing power has enabled factories to produce more and more things per hour of work per man, which means they have increased 'output per man-hour.' (*Factory Management and Maintenance*, August, 1946.)

* * *

The physical wealth of the population is the net output of the social mechanism used by the population and to be wealthy in this sense is to destroy goods and services by use. The whole process of events from raw material back to earth can be measured in energy degradation. Financial wealth is concerned with obligations between people and is entirely dependent on imponderable concepts. How

about acquiring some real concepts in Technocracy?

* * *

There is no physical reason why you should do without anything you can use. The basis of the rules that compel you to do without things were laid long before you were born. Why not help to make a set of non-interference rules for this new society Technology has produced.

* * *

Technocracy does not try to convert any one or to change their opinion. After all, changing one's conviction can be done too easily, and so far as Technocracy is concerned one opinion is no more important than another. The time spent arguing about opinions might be spent much more usefully in investigating the confirmability of Fact. If it is a matter of opinion, we can afford to forget. If it is a matter of fact, it is subject to investigation. How about a little mental housecleaning o keep these concepts each in its proper place.

* * *

If you have no other source of information except that supplied by the radio, the press, and the screen, you are mentally unable to face your future. Technocracy Inc. can supply you with factual information freed from any and all Price System propaganda. How much longer will you continue to be misinformed?

Science in the Atomic Age

Reprinted from *The Progressive*, Oct. 28, 1946

By David Lilienthal

Chairman of Atomic Energy Commission and former Chairman of T.V.A.

CAN atomic energy be developed for welfare and not destruction? No answer will be workable unless it is agreeable to every one of the great powers and substantially all the nations.

This is quite an order. It may be like insisting that a fellow who never has broad-jumped more than 10 feet must jump 20. If a deep chasm lies before him and something pretty hungry is chasing him, 20 feet is still one hell of a jump—but because he has no easy alternatives, it's not impossible.

Well, the world has no easy alternatives about atomic energy that I can see. If an answer can't be found, we're bound to have a feverish arms race. If that happens, all of us will be scattering our cities to defend ourselves and spending our energies devising ways of destroying potential enemies. Not a pretty prospect for science or industry, or civil liberties, or nerves, or anything else.

It was scientists and technical men who gave the world atomic energy. It is my opinion that the only hope of control lies in scientific spirit and method. In a world largely run by politics and legalism, this would be novel. But considering how unattractive are the alternatives, I don't believe that the 20-foot jump is out of the question.

Averting war and maintenance of peace are traditionally described as political problems. The political method, generally speaking, is based on the process of first deciding what your side wants, and then scurrying around for arguments to support the

answer you started with. Political methods—I am over-simplifying, but not much—are based on three procedures:

1. Tell the people what you know *they want to hear*—regardless of the facts. This gives great scope for orators, slogan-makers, and dogmatists.

2. Tell the people what *you want them to hear*—regardless of the facts. This is the technique of the well-poisoner.

3. Tell 'em nothing, and make 'em like it. This is an ancient art, but its modern practitioners have brought it to a new high level.

Political methods are generally in contrast to scientific method. The scientist obeys Nature by honestly observing and then truthfully recording *not* what he *wants* to find, but what he *does* find. (*Italics ours*) The essence of scientific method is that it does not start with the answer but with the facts.

It's not often that there is an opportunity to analyze a political problem in a scientific spirit. But something of the sort did happen last Winter. The product was 'A report on the International Control of Atomic Energy,' since accepted as basic to the American proposals to the UN Atomic Commission and the world.

How our board went about trying to find a plan is in some ways as important as the answer. We didn't start with the answer and then look around for arguments. We didn't start by asserting that the answer was world government and then pick out facts that would fit. Nor did we say 'National sovereignty must in no wise be

infringed' and then try to squeeze out a plan that would fit that dogma.

My four associates and I placed the facts alongside the idea of eliminating the bomb by international agreement, and as a consequence we were forced to discard the idea. Facts made it clear that there was no security anywhere if this is all we had to offer. It was just political hoorah to talk about nations concentrating on peaceful purposes, as if that called for entirely different processes and materials from those used for destruction.

Then we said: Suppose the world agreed to crack down on anyone who violated the international agreement? We rejected that, too, for we could find precious little security in a plan to punish a nation *after* it had dropped hundreds of bombs and killed millions of human beings. There is a premium in pulling the trigger first.

Why couldn't we have an international inspection agency? The facts forced us to conclude that inspection as a sole safeguard was unworkable. An inspector must know at least as much as the people he's supposed to watch. There's the rub. An inspector—a high-grade policeman—simply wouldn't know enough.

The only people genuinely qualified to protect the world against secret shenanigans would be those who know how to design and operate atomic en-

ergy plants—the chemists, physicists, engineers. And that is one weighty reason we urged a development and operating agency manned by technical people, acting for all nations and all people.

Some people object because it doesn't guarantee an end to war. Everyone would be profoundly happy if someone would eliminate all war with one stroke; but I don't anticipate that that's the way it will happen.

Perhaps the way to get there is to start with the urgent problem, atomic weapons. If we can't take this first step, what chance is there for the full-blown world government some people believe is essential, or an end to all war? My own guess is, not much.

But if in this one field of atomic energy the people of the world can develop a system of world law and a world operating and control agency, by following the facts and disregarding political dogmas, then perhaps all of us can tackle the next worst problem in the same way, and get that behind us, and on to the next.

In this way we can begin to work together, begin to *figure out our problems on the basis of facts*, in something of the spirit that scientists go about their problems, and really look forward to a generation of great progress and security.

No Connection

Ivan Demetrius and Mischa Petrovitz loved to argue. Standing on a street corner in Moscow whence they had come to enjoy a much-needed furlough, they watched an infantry regiment marching by.

'Do men grow upward or downward?' asked Ivan absently.

'Why downward, of course,' replied Mischa.

'How do you know, Mischa?' asked Ivan.

'Because,' replied Mischa, 'once when I outgrew an overcoat it became too short for me at the bottom.'

'No, Mischa,' replied Ivan looking out at the marching soldiers, 'men grow upward.'

'Why do you say that, Ivan?'

'Because,' replied Ivan, 'you will see that our brothers marching out there are all even at the bottom and uneven at the top.'

And then the argument really began.

Flashes of American History

V—Baltimore Builds a Railroad

By Ben H. Williams, 8141-15

THE completion of the Erie Canal in 1825 brought squarely before the merchants and manufacturers of the other leading Atlantic ports the urgent necessity of similar connection with the growing west. They realized that if they failed in these, New York City would leave them hopelessly in the background. Canal projects became the order of the day. Boston quickly found that for her a canal was out of the question, due to the rugged terrain of Western Massachusetts. Philadelphia undertook to break through to Pittsburgh by means of canals with locks, and inclined planes to portage the loads over hilly obstructions. This was slow and costly, necessitating frequent loading and unloading of freight and passengers. Baltimore had already promoted successfully two fine turnpikes connecting that city with the Ohio country. Her merchants now turned to the ambitious project of a canal that should connect Chesapeake Bay with the Ohio River and merging with a second canal leading to Lake Erie. The Chesapeake & Ohio Canal Co. was formed for this purpose. But engineers reported that the cost of such a waterway was prohibitive, and later pointed out that even the first link in such a canal system—that between the Chesapeake and the Potomac—was not feasible.

The B. & O. Railroad

So, in 1826, Baltimore promoters turned to the possibility of a railway. In that year, two men—Phillip E. Thomas and George Brown—went to England 'investigating railway enterprises, which were at that time being

tested in a comprehensive fashion as commercial ventures.' The following year, a charter was obtained from the Maryland Legislature for a company to be known as 'The Baltimore and Ohio Railroad Company' with the right to build and operate a railroad from the city of Baltimore to the Ohio River. Construction of the railway began on July 4, 1828. Speaking of the beginning of this enterprise, Archer B. Hulbert says:

The difficulties which faced the Baltimore enthusiasts in their task of keeping their city 'on the map' would have daunted men of less heroic mold. Every conceivable trial and test which nature and machinery could seemingly devise was a part of their day's work for twelve years—struggles with grades, locomotives, rails, cars. As Rumsey, Fitch, and Fulton in their experiments with boats had floundered despondently with endless chains, oars, paddles, duck's feet, so now Thomas and Brown in their efforts to make the railroad effective wandered in a maze of difficulties testing out such absurd and impossible ideas as cars propelled by sails and cars operated by horse treadmills. By May, 1830, however, cars on rails, running by 'brigades' and drawn by horses, were in operation in America. It was only in this year that in England locomotives were used with any marked success on the Liverpool and Manchester Railroad; yet in August of this year Peter Cooper's engine, Tom Thumb, built in Baltimore in 1829, traversed the twelve miles between that city and Ellicot's Mills in 72 minutes. Steel springs came in 1832, together with car wheels of cylindrical and conical sections which made it easier to turn curves.

Crude Beginnings

This and other early railways of America illustrated quite conclusively the inability of pioneer engineers to create sudden departures or drastic changes in materials, methods, or designs. The original locomotives were vertical steam engines on platforms without covering from wind, rain or snow. They burned wood, and their stovepipes spewed smoke and hot coals all over the landscape. The cars behind this fiery monster were modeled after the stage coaches in use at the time, with top passengers at sides and ends exposed to the full charge of smoke and live coals.

One writer of that period described this first trip on one of these trains. He says the passengers carried umbrellas to shield them from the sparks, but in a short time all of these umbrellas went into the ditch, having been burned up. The passengers then spent the rest of the trip in trying to protect their faces and hands, and in slapping at their neighbors' clothes putting out fires.

Railroad track gauges were of several widths, narrow, broad, and medium. Rails originally were of wood, later with a band of iron on top, then short rails of cast iron that frequently buckled, causing wrecks and killing passengers by coming up through the bottoms of cars. Brakes were defective; there was no telegraph nor adequate signal systems.

Between such a crude device and that of the modern streamlined railway train is a long time of technological achievements, with changes slow at the beginning, picking up speed even as the locomotive itself picked up speed, finally emerging into the precise mathematical designs of the present with their attendant technological aids to efficiency. But that is a story too long and detailed to be even summarized in this 'Flash.' The point

here is that these changes in railway transportation, though increasingly dynamic, were never 'revolutionary'—there were no abrupt departures from what had gone before. The same may be said here as has been said regarding the evolution of architecture, namely: that, for instance, the beautiful structure built by the ancient Greeks on the Acropolis at Athens was in its basic design merely 'a glorified log cabin.' Between that 'brain child' of Phidias and its original crude log cabin ancestor of savage days was a long stream of diversified architectural development, nevertheless the Parthenon failed to completely conceal its ancestry. Just so the streamlined train of 1937 is in direct line of succession from the clumsy railway trains of the 1830's.

Railroads Lead the Grand March

The B. & O. was not completed to the Ohio River at Wheeling until 1853. Meanwhile, thousands of miles of railroads, with improved equipment, had been built. The canal tow-path had grown up to weeds, and the picturesque 'wayside inn' with its crows of rollicking travelers, westward bound, and its roughneck stage drivers and freight haulers, had passed from the scene along the American highways. Chicago was about to become the railroad center of the world. Transcontinental lines, connecting the Atlantic and the Pacific, were in the offing.

In speed and mobility of transportation the railroad was vastly superior to the canal. It could be constructed to any point of high or low altitude quickly and at comparatively low cost. It became a mighty dynamic instrument for stimulating industrial expansion, opening up new areas for settlers, undermining sectionalism and, while bringing disturbances and discontent to rural America, it swiftly

cleared the way to the dominance of the city over the country, of industry and finance over 'rural democracy,' of the North over the South.

At the same time, certain dynamic changes were taking place also in American agriculture, which will be

noted in our next 'Flash,' entitled 'A Virginia Blacksmith Invents a Reaper.'

References:

Archer B. Hulbert, 'The Chronicles of America Series; Volume 17, Part 1: The Paths of Inland Commerce.'

John Moody, same volume, Part 2: 'The Railroad Builders; A Chronicle of the Welding of the States.'

'He Just Keeps Rolling Along'

A new type masonry drill, made by Carboly Co., Inc., Detroit, is claimed to cut through concrete faster than any other available tool. It is said to have drilled thousands of conduit holes in concrete ships built by Concrete Ship Constructors, National City, Calif., ten times faster than was previously possible. This efficiency is attributed to the drill's blade which is made of Carboly cemented carbide, the hardest metal yet produced. The drill eliminates the customary prolonged hammering and can drill an average of 300 holes before requiring sharpening in contrast to the frequent re-sharpening needed by the regularly used star drills. *Western Metals*, Aug. 1945.

A new weed-killing liquid spray developed by Socony-Vacuum Oil Co., Inc., is reported to be effective in destroying weeds among carrots, parsnips, and parsley. Its advantage over other weed-killing preparations is that it leaves no apparent residue and, more important, does not affect the taste of the vegetables. A few days after the spray has been applied, the weeds look as if they had been killed by a heavy frost. About 80 gal. of spray, costing less than \$12, is required per acre. Pulling weeds by hand costs more than \$60 per acre—*National Petroleum News*, Sept. 12, 1945.

'Picking Hops (for beer makers) on the Pacific Coast is keeping pace with the machine age. Individual mechanical pickers garner 57,000 pounds of hops a day. An Oregon grower says he can harvest 90 acres with 60 men—plus the picking machine. Without the machine he needs 200 to 250 men.'—(*Wall Street Journal*, Sept. 10, 1946.)

The installation of two-way radio equipment aboard a fast freight train on the D&RGW Railroad has yielded a saving of three hours running time in the 570 mile haul between Denver and Salt Lake City. The railroad reports that time was saved in the elimination of hand signaling, the clearing of switches, checking of hot boxes and dragging brakes. Radio greatly facilitated the teamwork of the crews by providing constant information on cargo conditions and right of way. (*Radio News*, July, 1945.)

A skilled hand-maker of cigarettes could turn out 1800 cigarettes in eight hours back in the 'good old days.' A first-class handpacker could package about 40,000 cigarettes in eight hours.

The latest model cigarette making machine turns out 1250 cigarettes every minute. The latest lightning-fast packing machines pack and seal 'millions of packs' each day (*Domestic Commerce*, November, 1946).

Since the end of World War II the backlog of patent applications pending in the Patent Office has risen to 130,000 (*Invention News and Views*, October, 1946).

Technothoughts

by Sam Pavlovic, R. D. 9344

The only social change that dollar daffy price puppets are aware of is the kind that jingles in the cash register.

* * *

Could we say that our present pattern of governance is an Oligarchy of Obstructionism on the highway to the New America?

* * *

Price System Abundance: Spurious Social Salves for Sappy Suckers.

Price System Scarcity: 20/20 Social Vision.

* * *

Strange as it seems: Machine tolerances, in the final end, will eliminate social intolerances.

* * *

In a Price System, the two main modes of exercise are chasing debt tokens and jumping at conclusions.

* * *

Stumbling block: Peculiar prehistoric principles of Price System propriety.

* * *

The prime pulsation in a Technate will be the throbbing rhythm of power.

* * *

American fetish: Too much faith in labels. We think in terms of labels; speak in terms of labels; and act in label patterns.

* * *

Aside to American labor: Before you were organized, you scrambled for crumbs. Today the crumbs are a wee bit larger, but you're still scrambling, brother.

* * *

North America has a wonderful foundation for a social structure that will make our fondest hopes seem like a piker's dream. TECHNOCRACY merely advocates building the structure. The men, machines and materiel are available. The blueprint is ready.

From the Camera's Eyevew

'You Can't Beat Mechanization'

East Is East and West Is Technology

There were two contests held recently between East and West regarding which it's just as well to get the whole story straight. Many people think they'd like to go back to the old days of human toil, hand-tools, etc. Pro-fascism naturally encourages that attitude. That's the reason these stories need straightening out, for one of them is open to misinterpretation as a defeat for technology. The contests referred to were between an ancient abacus and a modern electric calculating machine.

Kiyoshi (The Hands) Matsuzaki, a clerk in the Japanese Communications Ministry, challenged the Americans. The contest was sponsored by 'Stars and Stripes', the U. S. Army newspaper. It was held in Tokyo's Ernie Pyle theater. Private Thomas Wood operated the calculator and Matsuzaki used his 25c abacus. Matsuzaki, demonstrating amazing speed and skill, defeated Private Wood in four out of five problems. After the contests Private Wood said: 'I'll take the calculator. All you have to do is feed numbers into it and let it do all the work.' Matsuzaki grinned but said nothing.

The other contest was held in Chicago between Miss Paula Chen of the Chinese News Service and Miss Catherine Oswald, an employee of the Workman Service, a stenographic firm. They are shown in the picture below. Miss Oswald won by adding a column of 15 figures in 26 seconds that required 42 seconds on the abacus. Miss Chen charmingly admitted defeat and said: 'You can't beat mechanization.'

The point is not that because a highly skilled operator of an ancient computing device defeats the operator of a modern machine, therefore modern technology is overrated and we could get along just about as well without it. The point is whether the abacus is a more efficient instrument at performing the varied calculations necessary to carry on production and distribution of goods and services in a modern economy; also, whether handicraft methods, in general, are more efficient at satisfying human needs than is mechanization, in general. Let's look at the following pictures and see. (Continued on page 32.)

Photo: The Chicago Sun





Photo: U.S. Army Signal Corps

Unloading flour from a barge into a storage shed the hard way. The scene is a Persian Gulf port, during the war. No cranes, no electric trucks, not even hand trucks. Just hoist 'em up, lug 'em over, lay 'em down and then repeat, all day long. This is human toil minus even the hand tools. It is the 'good old' way of unloading a barge. Or, would you prefer some mechanization?

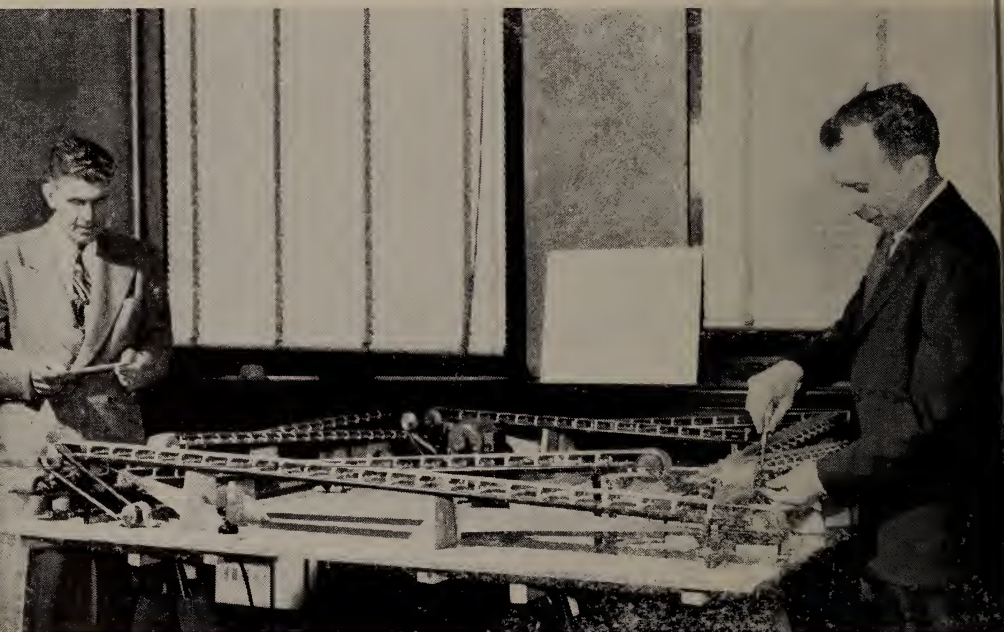


Photo: Goodyear Tire and Rubber Company

Here's what we mean. It's a pilot model of the 'world's first two-way belt conveyor, the newest principle in handling bulk materials.' The setup is designed so that the belt carries material on its return trip. First use may be in steel mills where ore can be taken in and slag taken out. No hoisting, lugging, sweating toil. No labor at all. Just a continuous process. That's technology.



Photo: By Frank C. Lempert

A Chinese woman doing her laundry in a dirty river, with a rough stone for a wash board. The ad with this picture said: 'Stone age or 1945?' The answer is that without mechanization, in general, the culture of America too would revert to something like this. Don't brag too soon. We're not so smart; and the Chinese are not so dumb. The main difference in our status is technology.



Photo: Goodyear Tire and Rubber Company

Here's the difference in status where mechanization, in general, prevails. Ponder this awhile and then decide whether you want to go back. American pro-fascism is all set to push the clock back if you consent. Your silence and inertia gives them the green light. The device shown is a refined hand tool but technology pervades the entire scene and made this picture possible.

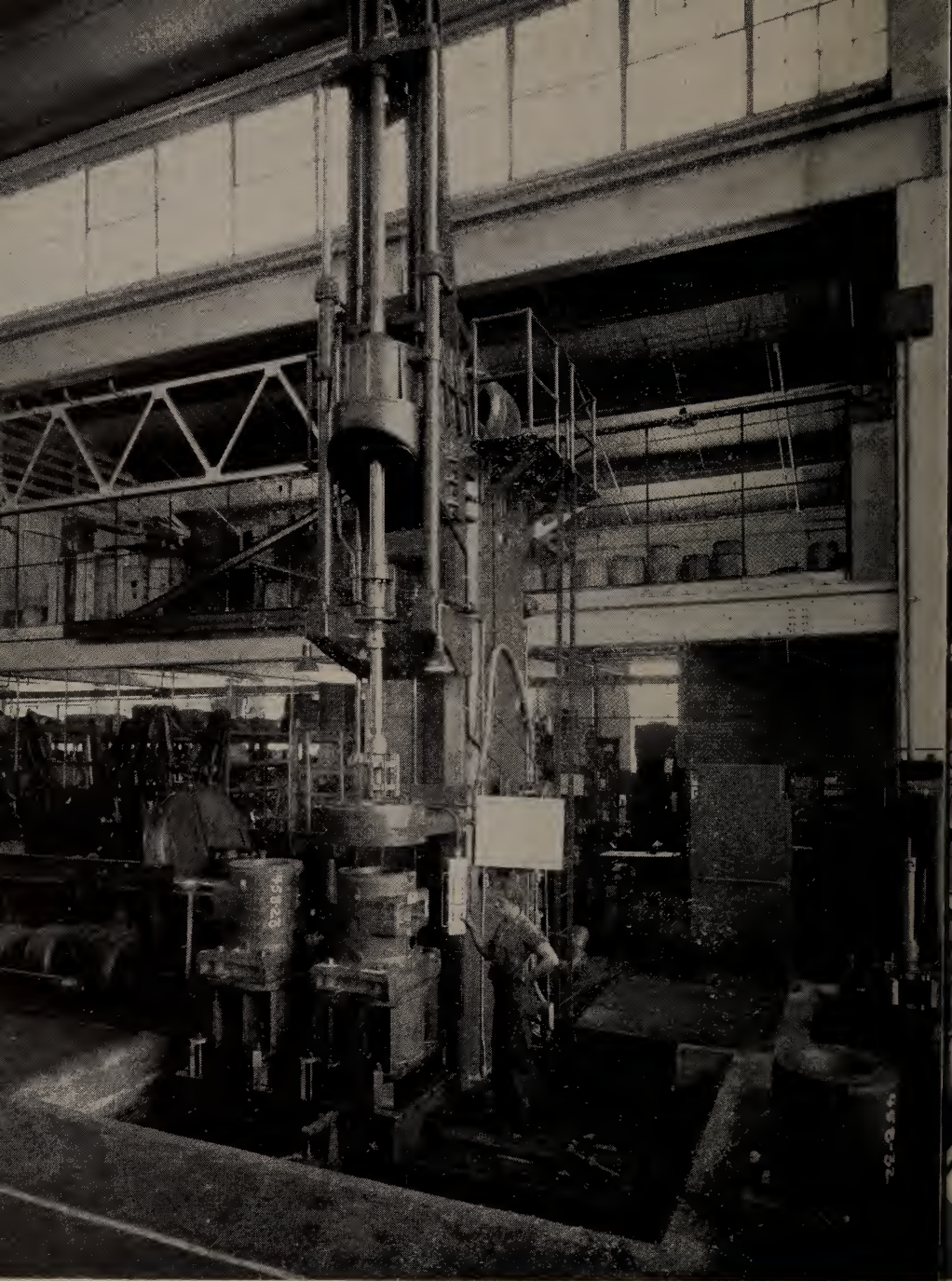


Photo: Cooper-Bessemer Corp.

A three story high, vertical honing machine that hones diesel cylinders up to 6' long and 26" diameter. Honing inside surfaces of cylinders reduces blow-back of oil from explosion chamber, confines gases, raises engine efficiency. Honed cylinders have a true surface. Operation is by push buttons from a portable control panel. A shop worker learns to operate it in a few days.

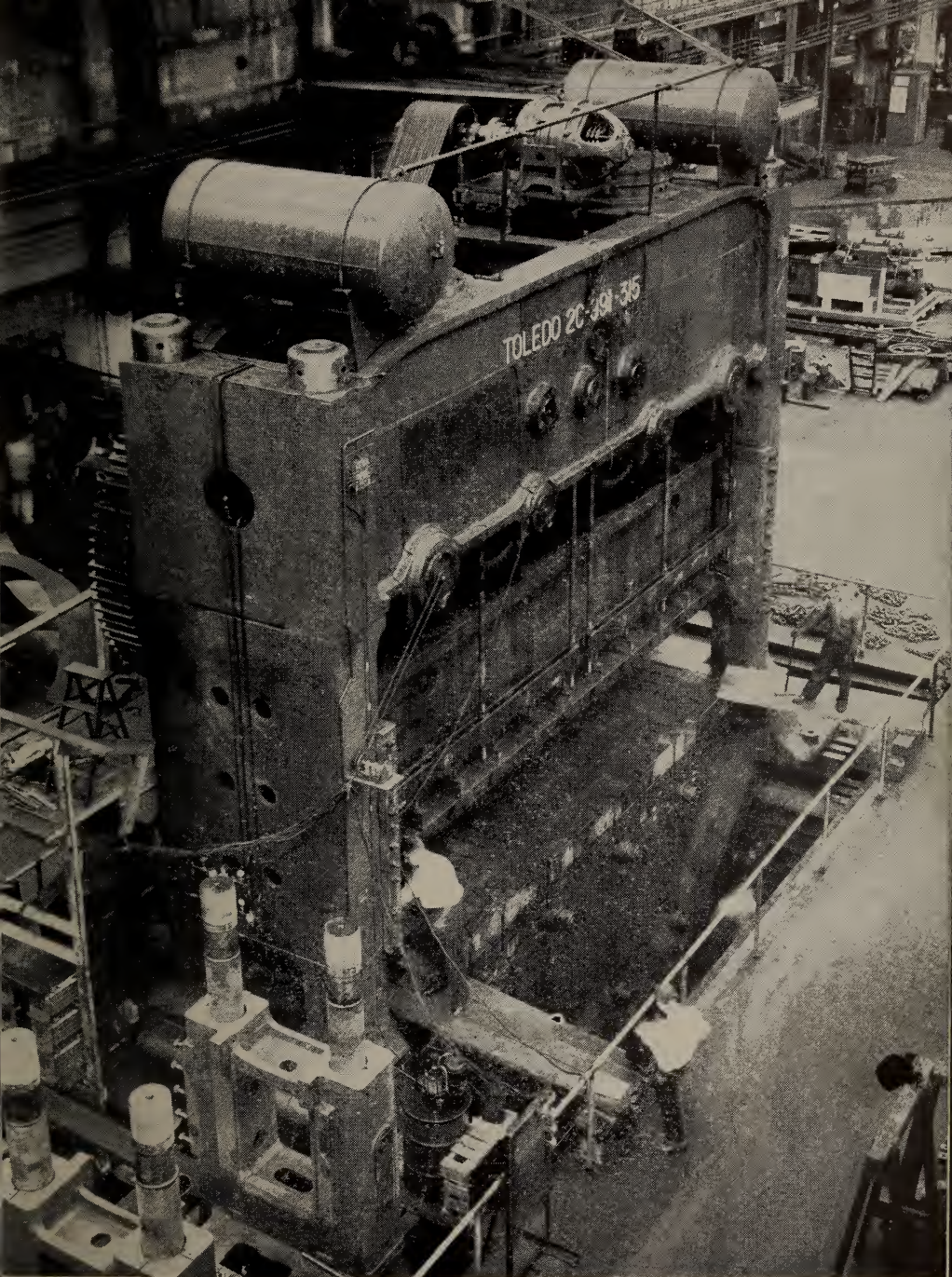


Photo: E. W. Bliss Company

A mammoth press for blanking out chassis frames for automobiles, trucks, tractors and freight cars. Has two sets of dies and blanks out two sets of frames every 10 seconds. Has a pressure of 2500 tons and operates at 6 strokes per minute. Total net weight is 1,150,000 lbs. This unit was shipped to Russia and took 15 freight cars to move. Here is great power, massive technology.



Photo: U.S. Army Signal Corps

Back we go to handicraft methods. The U. S. Army reported oil seepages in a half dozen areas in northern China. Oil has been skimmed from the surface for thousands of years. A laborer can skim about a barrel a week by hand. This all-hand operated well produces four barrels a day. Without mechanization resources don't amount to much. It takes energy and technology to convert them.



Photo: Franks Manufacturing Corp.

U.S. also has a lot of oil. What's more it has the technology and energy too. Here's a '100% portable, rotary drilling rig comprising derrick, power plant, drawworks, pumps and all essentials compactly unitized and mounted on one truck.' It can be set up ready to drill in 20 minutes. How's that for technology? Russia ordered 125 units. They know a good thing when they see it.

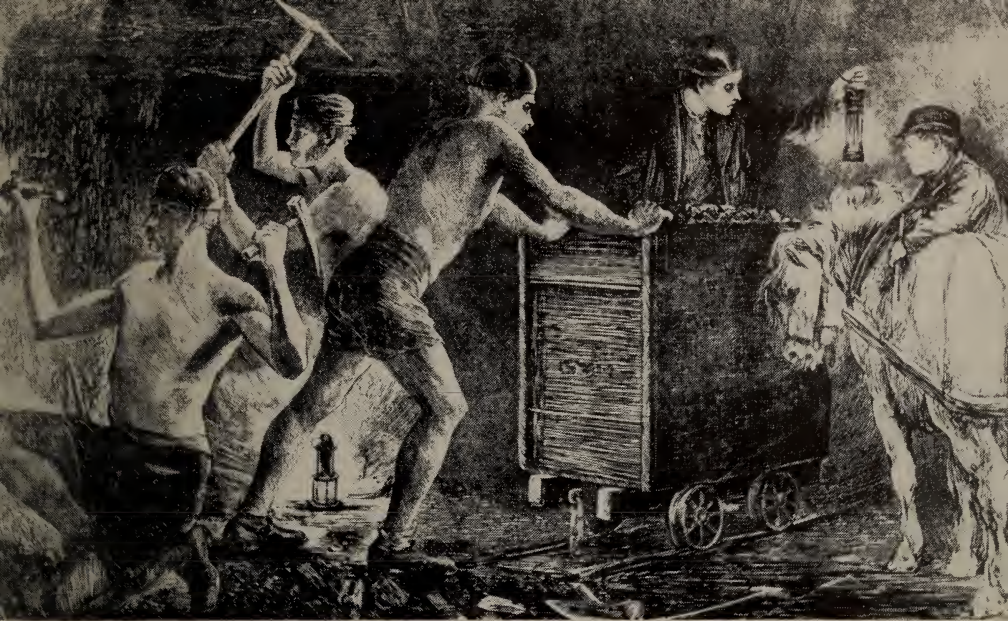


Photo: The Bettman Archive

Here's how they mined coal in U.S. in 1871, before mechanization came to the mines. Note the toil going on and the little boy who'd have been better off in school, maybe. In 1871 average production of coal per miner per day was a little over one ton for twelve hours of toil. Today it's over 5 tons for an eight-hour day. If we want more coal, we must work less miners and more machines.



Photo: Sullivan Machinery Company

Here's the way to do it. It's the latest rotary, universal coal cutting machine. It will do either horizontal or vertical cutting at any point between roof and floor of coal seam. It undercuts or overcuts a channel up to about 6" width, 9' depth and 25' from side to side in about 6 minutes. Like to try it with a coal pick by hand? It's no use: "You can't beat mechanization."



Photo: Anaconda Wire and Cable Corp.

A candle won't broil a steak. Neither can Price System methods distribute abundance and guarantee equal opportunity to all citizens. In both cases there's not enough energy and technology. The Price System grew out of a handicraft-agrarian culture. North America's social problems can only be solved by a technological culture. There's only one best way. 'You can't beat mechanization.'

With All Due Respect to Confucius—(Continued from page 25)

The answer to our question is found by examining the respective cultures of which the abacus and calculating machine are a part. The culture of Asia, in general, is a handicraft-agrarian economy of human toil, hand-tools and ever-present natural scarcity. The abacus is probably adequate to perform any calculations necessary to carry on production and distribution at that low order of magnitude. After all, in any area or culture where the average citizen is lucky if he can figure out where his next two or three bowls of rice are coming from, he doesn't need an electric calculator.

North America's culture has passed beyond the handicraft-agrarian stage. In the last hundred years, and particularly in the last fifty years, the U. S. and Canada have forged far ahead of the rest of the world in industrial development. Science and technology have invaded almost every field of production, from agriculture to atomic energy. The major social problem here is not to figure out where the next two or three bowls of rice are coming from. It is, from a Price System viewpoint, a problem of how to keep the system from being swamped by abundance. Obversely, from a technological viewpoint, it is a problem of how to usher in that abundance without upsetting the apple cart of technology from which it comes.

Whichever side of the fence one is on will determine whether he is abacus-minded or calculator-minded. You can't perform the higher calculations necessary to carry on a technological system with either an abacus or an 'abacus mind.' Neither can you produce and distribute abundance with handicraft-agrarian methods. Private Wood had the correct answer when he said: 'feed numbers into it and let it do all the work.' Paula Chen, also, had the correct answer when she said: 'You can't beat mechanization.' Well, who wants to beat it? Only the pro-fascist upholders of the ancient status woe. Choose up sides, Boys! The game is almost ready to start.

Method or Mythology

Spirits of Confusion—Triple Distilled

By Geo. B. Connor, MAL

'Great crises come when great new forces are at work changing fundamental conditions, while powerful institutions and traditions still hold old systems intact. . . . If that is so, then it behooves us by education and will, with intelligent purpose, to criticize and judge even the most established ways of our time, and to put courage and labor into resistance to the current mores where we judge them wrong. It would be a mighty achievement of the science of society if it could lead up to an art of societal administration which should be intelligent, effective, and scientific.'—William Graham Sumner, 1840-1910, Professor of Political and Social Science at Yale University, in his book *FOLKWAYS*, page 118.

They Gave Us A Stone

'I BELIEVE!'

Into what pitfalls and debacles these two innocent appearing words have led the toddling footsteps of humanity. Their dirty work is not yet complete. Even in the halls of science, where their unreliability is most often appreciated, they make their daily contribution to confusion.

Belief is always the easy way out. Belief is the siren, the nymph of nonsense, that lures the unwary off the rough, dynamic seas of thought into the tranquil waters of imagination, then quietly murders mentality under the opiate of deception. It thwarts reason with emotion; it defeats knowledge with preconceived ideas. The widespread employment of belief results in impeded social progress and stymied civilizations.

Babylon and Egypt fell before its onslaught. Greece succumbed to its spell. Rome withered on the vine at its breath. And the darkness of the middle ages spread in filth and squalor under its wings. The British Empire, today, is moldering in its clutch. Nor is this Continent free of its lechery. Belief is the antithesis of knowledge in general, but of *social knowledge* in particular. It stands as the principal barrier be-

tween Americans and an understanding of their social problems.

Belief has misdirected the thinking of men for many centuries. It has gained admittance to his every institution and has obtained control over most of them, except science. To bring this spectre under observation is to tread into the awe-bound precincts of constituted authority. To question belief is to violate the sacred soil of superstition and tradition. Belief now occupies a pedestal of equal stature with any of its predecessors in the mythology of the past. Greek gods and Roman idols were not more inviolable in their day than political government, the Price System, and ecclesiasticism are today.

Sunlight Dissipates Fog

Belief is a dragon that even St. George would hesitate to tackle. It has no vital spot by which it can be dispatched in a trice. To attack belief is to attack simultaneously ten thousand nebulous ghosts. Its very indefiniteness is its greatest strength. It will not battle openly. It preys unmercifully upon sentiment. It perverts the finer aspects of tradition to its own mean and sordid ends. It sets up authority beyond fallibility, and elevates superstition to sanctity and de-

votion. It condemns abundance to the sacrificial altar of Price System profits. It confounds a discussion of social affairs by introducing emotion and prejudice. It persecutes the manifestation of sensible social planning by every distraction available. It is the insidious and undetected enemy of everything American. To cope with this pervasive nonentity requires all the skill and resource that science can command!

By definition, belief is something which is accepted as true upon a statement by others as distinguished from personal knowledge. By definition, therefore, belief is effected by argument or persuasion, in contrast to knowledge, which is effected by the presentation of facts. It is literally so that anyone who believes anything is, *de facto*, letting someone else do his thinking for him. To say 'I believe' is a tacit admission of ignorance; otherwise, the speaker would get the facts and know definitely of his own accord. In minor affairs and unimportant details, belief might possibly be condoned as a harmless pastime. In matters of social importance, it leads straight to social chaos.

He Knows Not That He Knows Not

As belief is the direct result of ignorance, it would seem a simple matter to eliminate it at the source by eliminating ignorance. With candid ignorance, it would indeed be simple, but the problem is more complex than a casual examination would disclose.

Honest ignorance is a rare phenomenon. Ignorance is almost inseparably accompanied by stupidity. When thus accompanied, ignorance acquires an amazing and curious set of characteristics which enables it to practically defy penetration. First of all, it is completely unaware of its own existence. Stupid ignorance cannot conceive of ignorance. It cannot understand,

nor will it indulge in self-examination. It resists attempts at education and will not acquire knowledge of its own volition. It cannot recognize intelligence and, therefore, will not seek to emulate the intelligent. It cannot anticipate the future, nor realize the necessity for design. It is incapable of function beyond the barest limits prescribed by the necessities of its environment. Being the soil in which belief thrives, it is a condition which blindly suffers authority and tyranny. It worships power and pomp, is dazzled by ritual and rote, and is, in consequence, the ideal substance upon which Fascism feeds and flourishes. Thus, ignorance creates its own vicious circle—ignorance, to belief, to authority, to ignorance. Around and around she goes, and where to stop it, nobody knows.

There is only one effective step we can take to roll back ignorance, curb belief and give knowledge a chance to function properly. That step is to usher in the abundance which technology makes immediately possible on this Continent. This is the only place where such a possibility exists and we must act quickly if we are going to make the most of our opportunity. North America may yet put an end to the absurdity of belief, where factual knowledge is available.

Stay In Your Own Back Yard

To acquire an understanding of society or any of its problems requires, first of all, that belief be separated from knowledge, and that a sharp distinction be made between the two thereafter. A brief examination of knowledge discloses that it falls into two classifications: (1) That which is already accumulated and tested and about which nothing further need be done, except to apply it. This includes such things as the postulates of science; the physical laws of the earth; the law of energy determinants; the nature of

the Price System, etc. etc. (2) That which is partially accumulated and tested, but about which all is not known and consequently about which research is being carried on in pursuit of additional data. This includes atomic energy; methods of education; population and racial problems; biological knowledge, etc. etc. In fact, a very large portion of knowledge falls within this latter classification. That which is absolutely unknown and unknowable cannot be classified as knowledge. Here, and here alone, is the domain over which belief can claim any domination. Beyond this it cannot go.

Nor has belief the privilege of denying investigation into the unknown. Much of the trouble today lies in this direction. Belief is insistent that the unknown remain as such by attempting to prevent it from being made available for exploration. Any serious adherence to such a program would automatically put an end to human advancement. If, in the final analysis, there is nothing unknowable, then belief must entirely cease to exist. That is the inexorable law of intelligence, and cannot be circumvented.

Belief, however, is not content with an attempt at halting further investigation. Belief is exerting a powerful influence to prevent the utilization of knowledge already acquired, particularly in the field of social affairs. It is, therefore, important for Americans to realize that belief is throttling knowledge, the application of which would free them from scarcity and open the gates to actual abundance. *Technocracy* is actively opposed to this sabotage of social knowledge.

Tell A Big Lie

What are some of these fables which have been palmed off on us as gospel truth, and which are causing untold misery, while masquerading as our

benefactors? The first and the biggest fraud is that 'private enterprise' is the best and most effective method of producing and distributing the goods and services necessary to provide a livelihood for Americans. Private enterprise is a belief in the best tradition of the word. It is not a method of doing anything. Production is the result of human and mechanical endeavor, usually, but not necessarily, in combination. Distribution today is the result of price, of money paid *only* for human participation in production or service in the form of wages and salaries. Private enterprise, so-called, is a bastard outgrowth of salary for service. It is promoted on the principle of privilege, or 'right' of an individual or special group to acquire property and gain profit by buying at one price and selling at another.

In the old days, when production was the direct result of toil only the crafty trader, the priest and the feudal baron accumulated wealth. Hand production dictated the conditions. Hand production permitted a small minority, the profiteer, the royalty, and the witch doctor, to capitalize on the efforts of the laboring majority. Then came technology!

Smasher of Shams

Technology is the greatest iconoclast of all times. It has destroyed the concepts of special privilege, not with words, but with deeds. The slave and the attendant institutions of toil became liabilities under the impact of technology. Handicraft production graduated into industrialization, but the methodology of handicraft distribution, the Price System, refused to graduate because by so doing it would have disappeared in company with the system of hand production, under which is developed. The Price System and its methodology rode right along, like a leech, into the new society,

claiming the credit and the glory for every advance made by technology, while simultaneously engaged in hindering advancement. Technology is now at the task of disposing of the Price System.

The status quo, however, is well defended. From ages of practice at the art of legerdemain, the oligarchy of the Price System has successfully created such a state of social confusion and dissension that few men know for a certainty where to place reliance. Some day we are going to 'get wise' to the fact that the *method of production*, and not the rascals who capitalize on it, is the thing which makes America the wonderful place it is in which to live. When we make this discovery, private enterprise will be off to the happy hunting grounds, its only remains an unpleasant memory to those to whom it so bitterly denied the fruit of abundance. Today, however, private enterprise is the god of gods in modern mythology, and legion are its worshippers.

X Marks The Blind Spot

The next great deception in popular practice is that of politics. No one has yet been able accurately to figure out what constitutes politics. It has been defined as the science of government and is upheld as the best of all practices for social administration. If politics is the science of anything, then baboons are beautiful. If politics is the best method of social administration, then war, crime, filth, disease and poverty must be the ultimate goals of our culture. Is any one stupid enough to believe such trash? Indeed, there are millions of Americans who will do battle in defense of this nonsense. The fact of the matter is that if we can survive the conflicts into which the conspiracies of politics will drag us, both at home and abroad, we are going to be exceedingly fortunate. If we

succeed in weathering the putrid practices imposed on society by political referees striving to preserve the status quo, we most certainly can survive any social administration devised by science for the deliberate purpose of furthering the General Welfare of all Americans. Surveying in retrospect a thousand years of political regimes in America and Europe (from whence it was imported), one wonders what it takes to convince the public that politics is rotten to the core and absolutely incapable of efficient and sensible administration. Politics, the great god Bull, plays the role of lackey to the god of gods, private enterprise, in modern mythology. No deal is too dirty or too dastardly for it to put over in the service of its master.

'Render Unto Caesar—'

The last of our monstrous fabrications is ecclesiasticism. By this we do not mean religion. Let's look at the point closer. Religion is a feeling of deep reverence, of faith and belief in a superhuman power that is placeless and timeless. Churches are the social institutions evolved out of that feeling to express that faith and belief. Ecclesiasticism, or clericalism, is the misbegotten behavior of the overlords of the church in general who sabotage religion by engaging in anti-spiritual activities.

Ecclesiasticism meddles with and interferes in affairs of the temporal world with which (by its own declaration) religion can have no concern. Ministering to the spiritual needs of mankind does not license tampering with the physical requirements of individual existence or with the administrative necessities of collective existence. By the same token those who are charged with the operation of the physical and administrative facilities of society have no license to tamper with the spiritual requirements of the

people. The two are separate fields. One is a question of belief. The other is a problem of measurement.

A long suffering humanity is still subject to illicit impositions by ecclesiastics who exercise political and economic control outside of their spiritual domain, in defiance of the tenets of religious faith. The Old World has been cursed with this social ulcer for ages. It is one of the most pernicious characteristics of the Price System. When the New World of America was settled, a new principle was set forth. That was freedom of religion combined with separation of Church and State. Today, religion is not free from economic pressures, and the State is not free from ecclesiastical pressures. Business and politics are increasingly submitting to and endorsing the obnoxious practices of clericalism.

This triple oligarchy is the same unholy alliance which downgraded so many nations and peoples in the past. There is nothing sacred about these clerical saboteurs of humanity. They exploit the sanctity of worship and prostitute the trust reposed in them by men. By conniving with business and politics, clericalism betrays its own body of faith and belief, and the followers who support it and them. Religion is a social necessity for the spiritual side of man. Its function is to imbue him with tranquillity in the face of the hereafter, by adjusting the fearful uncertainties of the unknown to a belief in eternal verities. It has a vast, unconquered field of operations there.

Religion has never yet been free to perform its true function. The money changers have been driven from the temple a thousand times. As long as the Price System lasts, however, they will always manage to find their way back to set up business at the ancient stand. The formation of the Technate of North America will automatically remove both money and the money

changers from the temple, and for the first time in human history religion will be able to fulfill its true function. Not until that time will the religious leaders of this Continent be free to render unto God that which is God's!

Is There A Doctor In Your House?

Technocracy has no place in its activities for belief. The first thing a Technocrat must learn to do is to forget the false information that has been foisted off on him from the day he left the cradle. If he can do this successfully, he is then in a position to begin the acquisition of factual knowledge. In a short time the transformation is complete. A conditioned Technocrat is a new person, mentally if not physically. His conversation and viewpoint are novelties in America, because he refuses to rely on guesswork, and makes decisions only on facts. The membership of Technocracy cannot be misled on social issues, for the simple reason that it employs the scientific method to verify knowledge.

America is in the throes of a mighty gestation. Abundance is being born. If it were not for the witchcraft midwifery of belief, the birth could be a natural and normal delivery. The social quacks are at work with their devilish schemes, and if abundance comes through it alive, the American people will be lucky indeed. Social obstetricians are almost as scarce in America as seaweed on the sahara. Almost, but not quite! There are some who can be made to realize that abundance is the destiny for North America, and that it *must* be delivered. Upon these rests the full responsibility of civilization. It is toward them Technocracy points its address, for they alone can usher in abundance and prevent chaos.

Calling All Citizens

Where are they to be found? Everywhere! In all walks of life, from all

creeds and races, from all groups and strata of society. From the ranks of the whole people of America, as it should be, come the volunteers with the knowledge, the skill, the endurance, the consideration and the patriotism of the New America, a genuine physical democracy. To them a simple statement of fact, which they can verify, means more for social welfare than the most profound nonsense concocted by eminent authorities of press, pulpit, political party, or business office.

To reach these people demands an organization designed for that specific purpose, an organization with the identical characteristics we have enumerated as the requirements for constructive social intelligence. *Technocracy* is the synonym for social intelligence. *Technocracy*, alone, fulfills that demand.

At this writing, the believers of the Price System are beating the drums

for destruction in preparation for a war with Russia. Shylock is out to get his pound of flesh and preserve his system of profits. If we do not determine, as a people, to organize for peace and plenty, we shall be *organized*, by the proponents of the status quo, for death and destruction. These are the *only* alternatives. It's got to be this or that! It's got to be wisdom or war! It's got to be leisure or labor! It's got to be method or mythology! It's got to be *Technocracy* or terror! I'll make mine Technocracy. How about YOU?

Note to the reader: If you 'believe' a single idea in this article, you are fooling only yourself. If you suspect that it is correct, or incorrect, but would like to make sure, here is the best thing to do about it. Join Technocracy Now and Investigate its program. Do your own thinking!

Outline of the Future

Business Week, June 15, 1946, reports that the Reynolds Metal Company plant at Louisville, Kentucky, received a shipment of over 1,000,000 pounds of aluminum (more than 20 boxcars full) by marine freight from the mill at Listerhill, Alabama. The shipment required four days from Listerhill, up the Tennessee and Ohio Rivers, as against the usual two days by rail. "But the water shipment was much cheaper." You bet! That's why the railroads had their political stooges put the legislative kibosh on America's growing canal system back in grandpappy's day. They couldn't stand the competition. When Technocracy's Continental Hydrology System is installed, all heavy freight will move by water. It's the cheapest way from an energy standpoint. There won't be any railroad lobbies around to butt in either. In fact, there won't be any railroad lobbies—period.

Dr. E. G. Kelly, chief entomologist of Kansas State College, carried out a fly eradication test last year in 20 Kansas Counties. 'One part of a herd in each County was sprayed with DDT, while the rest of the herd, just across the fence, on identical pasture, was left untreated. The herds were weighed in May and again at the end of the fly season in October. The treated herds gained an average of 48 pounds an animal, or 32% overall, more than the unprotected herds.' Dr. Kelly estimates that there are often from 3,000 to 5,000 flies plaguing a single animal at one time. In a test of 15 cows in one dairy herd by A. H. Stephenson, county farm agent for Sedgwick County, the results show that after one DDT treatment milk production rose from 50 gallons a day to 60 gallons. (*Wall Street Journal*, August 6, 1946.)

Dictionary of the Price System

A Word A Day Keeps The Fog Away

By Herb Robbins, 8439-1, A. E. Borel, MAL, and Joseph Eble, R.D. 11934

SMALL BUSINESS MAN—A licensed tax collector for the politicians, operating on a percentage basis.

ONE WORLD—Last ditch hope of Free Enterprise. Will soon collide with the laws of thermodynamics.

FOREIGN TRADE—Selling goods overseas so as to acquire purchasing power at home in order to buy goods we already possessed before we shipped them overseas.

ORGANIZED CHARITY—Dividing up the crumbs that fall from the table of free enterprise.

MALNUTRITION—The deplorable condition deplored by the deplorably over-fed. More easily rolled over the tongue after a ten-course dinner.

STATES RIGHTS—Dividing up the political gravy. You work your side of the street; I'll work mine.

CHAMBER OF COMMERCE—A chamber is a pot. Commerce stinks. Draw your own conclusion.

GOOD BREEDING—'Concealing how much we think of ourselves and how little we think of the other person.' (Mark Twain)

ADVERTISING—The skill that drags in the suckers. Smokescreen of free enterprise.

THE AMERICAN WAY—'A system by which no matter what party is in office the average citizen will remain just as poor as ever.' (Sydney Harris in *Chicago Daily News*, October 1, 1946.)

CHISELPUSS—A specialist in separating the sucker from his debt tokens.

FARM SUBSIDIES—(before the war) Paying taxes to pay farmers to create artificial scarcities of farm products. (Now)—Paying taxes to pay farmers a bonus so they won't reduce production.

INCENTIVE—The cash urge for free enterprise to fight a war. If it's cut to \$25,000 a year, they quit.

SALESMANSHIP—Rationalization of a raw deal.

PATIENCE—Sweating out a political promise.

WILL OF THE PEOPLE—'The result of an election in which not more than 40 percent of the voters go to the polls to elect a candidate they had no voice in choosing after a campaign of insults, innuendoes and outright lies.' (Sydney Harris in *Chicago Daily News*, October 1, 1946.)

LABOR—'One of the processes by which A acquires property for B. (Ambrose Bierce)

America - The Beautiful

Sixty-nine percent of the population of Alabama live on farms and they receive an average annual income of \$335. The average annual income of 96.3 percent of these farm people is \$278. The other 3.7 percent receive \$1,794 a year each. The average public school expenditure in the nation as a whole is \$103.49 per pupil, per year. In Alabama it is

\$41.97. In non-poll tax states in 1944, 61.9 percent of the adult citizens voted. In Alabama 19 percent voted. In Alabama 57 percent of the dwelling units have no inside toilet; 66 percent have no running water; and 75 percent have no bathtubs or showers. (From *Mobile, Alabama, Labor Journal*, as quoted by the *International Teamster*, May, 1946.)

My Subject Is Technology

By Dr. G. W. Gleeson

This is the last talk of a lecture series given by the author over Station KOIN, Portland, Oregon. It was broadcast on July 28, 1946. Dr. Gleeson is Dean of the School of Engineering and Industrial Arts at Oregon State College, Corvallis, Oregon.

FIFTEEN minutes is such a short time, and there is so much to say in a last lecture. This is particularly true in discussing technology, and detail must be disregarded in favor of broad outlines. Nevertheless, technological developments are sufficiently significant to be a fitting topic for any final discussion, since the fate of civilization is intimately linked with technical achievement. There are but two patterns of civilization, the passive-philosophical and the active-technical. We have chosen the latter as the American Way of Life. Others have done likewise. The choice is historical, but where does it lead?

In speaking of technology, I lump pure and applied science together. Because the Greeks in their philosophy counted intellect above senses and thought above experience is no reason for us to carry fine distinctions between basic, fundamental, or pure science and applied science, or engineering, down through the ages. Today, theory and practice are merged. In modern development three large trends are evident. The first, or technological pattern, is characterized by rigid adherence to disciplines, rapid and universal acceptance of change and is international in operation. Out of revolution in thought, science was born. Independently, inventions were created to merge ultimately with science and be a product thereof. Engineering came into being to put science and invention to work. Essen-

tially, the technological pattern was wealth-creating, and operative through the efforts of the scientist, inventor and engineer as supported by industrial capital. Of importance is recognition of the fact that the technological pattern developed upon a self-accelerating basis, and the efforts of all men were available to all others. More of this later.

The second large pattern which initially paralleled the technological might be termed the political-economic. No farther back than the theory or doctrine of laissez-faire, the rise of economic individualism, are embodied the essential principles. The acquisitive instinct of man was satisfied by freedom of independent commercial enterprise. *Our liberties and democracy are extensions of economic individualism into government and politics.* (Italics ours) Current extension of the pattern is evident in our continued discussions of 'free enterprise,' 'small business,' monopolies, and individual rights.

The first two patterns, the technological and the political-economic, each a powerful organizational scheme in itself, ran parallel for a time and ultimately merged into a single force out of which was born our modern industrial economy. The merged pattern has gathered momentum for over a century, and complexities have multiplied and maladjustments are only too evident. All elements of the pattern have not gained equal strength

at the same time, and coordination has become increasingly difficult. Political elements have not harmonized with the economic, and both have lagged behind the technological. Small wonder that we have the unsolved problems of wealth distribution, equal participation in the benefits of the system, conservation of resources, and regulation and control. Emergency legislation and measures of expediency have made no permanent impressions upon the pattern. Only in those rare instances where all elements are coordinated or harmonized do we change the course of the stream, for better or for worse. Otherwise, the influence is only momentary and transient.

The third large pattern might be called the social. It is recognized by the successively larger aggregations of people from the family to the tribe, to the community, to the state, and to the nation. Currently, as a last step in aggregation, we are attempting to unite nations. Larger aggregate groups resulted in collective activities of which war is one. Important is the fact that adherence of the individual to the social pattern became a necessity, and interdependence of people developed into a controlling factor.

The stream of the social pattern has run parallel to the technological-political-economic combination and has only recently started to merge. There is very definite evidence that one of the strong trends of the immediate future will involve the coordination of the social pattern with the main current of our national and international growth.

My subject is technology. The digression into historical development is by way of recognition of the fact that technical accomplishment is only one of the four major elements of the developmental pattern of civilization, and that the technologist is fully aware of the political, economic, and social

aspects with which his activities must be correlated. However, the complexities of existence have made specialization a necessity, and technologists are specialists as are all professional persons. It is difficult for the technologist to assume responsibility for political, economic, or social situations, since his training and experience are not in these fields, but he is an advocate of group action wherein all types of specialists concentrate effort on a single problem. He recognizes all such 'teamwork' as a 'must,' and is entirely willing to attempt to understand other viewpoints. In fact, the technologists are of the opinion that survival depends upon the interfusion of all knowledge.

Contrariwise, technologists are impatient with the partitioning and fragmentation of problems. They resent island entities of activity and pressure groups. They do not believe difficulties can be overcome by fiat or situations altered by measures of expediency. Economic aspirin is abhorrent to them, and matters of the immediate moment are considered to be far less important than consistent, long-range programs. Further, they recognize that it is of as much, if not of more, importance that politicians, economists, and social scientists understand the fundamentals of technology as for the technologist to have an understanding of the other fields; this, because the technical developments have outstripped the social and economic adjustments, and the widening gap can only be closed by accelerated development in the latter fields.

Yes, the technologist is responsible for our so-called push-button age, for our plethora of gadgets, for our seat-cover upon seat-cover existence. The ability to produce is phenomenal and was our greatest strength in the war. We have become the leading nation in scientific achievement. We produce

synthetic products to replace the natural ones, and then develop synthetics to replace the synthetics. We both destroy and create entire industrial economics almost overnight. We have more, buy more, and consume more than any other people at any other time. We have created labor-saving devices to provide leisure time and have no convincing proof that we know how to use that leisure. We have fallen into an easy attitude of regarding labor and work as an necessary evil; something we have to do in order to obtain the means to enjoy life. Actually, we should live to work rather than work to live, because the keenest enjoyment results from competent accomplishment. Much of the productivity of technology stems from this philosophy of effort. To the technologist, his vocation and avocation are one.

I return to the tremendous acquisition of material things with which our lives are cluttered. True, the technologist assumes full responsibility for their production, but people want it that way; at least the full order books and a strong sellers' market so indicate. By the same token, the productivity of the technical fraternity is responsible for the fact that our economy is a luxurious one, and susceptible in the extreme of mass whims and suggestions. We are always moving up or down the economic scale and alternate with increasing frequency between boom periods and depressions. Yet people do not care to forego luxury items, and the automobiles, washing machines, radios, two-car garages, sports equipment, and the thousands of articles which we could fundamentally do without have become an integral part of our standard of living. People as a whole are responsible for their demands.

I am sure that the multiplicity of technical efforts and products there-

from has resulted in public confusion—and small wonder. The reason is best explained by analogy. Man has existed upon earth for some two hundred and fifty thousand years. The earth is approximately 25,000 miles in circumference; hence, each mile which is traversed upon the earth equals about ten year's of man's existence. Take a fictitious trip, letting the trip represent man's earthly experience in terms of time. We start from New York and cross the Atlantic; we traverse the continents of Europe and Asia; we proceed eastward across the Pacific Ocean and land on the West coast of the United States. Not much has happened to man as yet from a mental standpoint. We continue our trip eastward and arrive in Chicago. *Man has just learned to write.* We reach Pittsburgh, Pennsylvania, when Egypt was settled. We are in Harrisburg, Pennsylvania, at the birth of Christ. We pass through Philadelphia at the time of the Norman Conquest of England. We are in Princeton, New Jersey, at the landing of the Pilgrims and in East Newark, New Jersey, when Fulton invented the steamboat and Napoleon had his headaches. Then, we enter the Hudson Tunnel which connects with our starting point. *All of the so-called modern developments and practically all technical achievements have taken place in the short length of the Hudson Tunnel,* as compared to our trip around the world. Small wonder that the adaptation of man to his technical environment has caused confusion.

Let us slow up—*impossible.* The self-catalyzing property of technical accomplishment will not permit. Each new item of knowledge expands itself geometrically in the possibilities of adaptation. In technology, the knowledge of all ages and of all men is available to each individual. It is difficult to keep secrets in science. If

you don't discover, someone else will. A 'holiday' for science would be a national calamity. Technology will expand and advance as it has in the past just as long as people have unsatisfied desires, both material and mental. The problem is to adapt our social order to the inevitable.

The 'last lecture' can end in an optimistic vein. The several fundamental trends which form the broad pattern of our progress through time can be recognized. Analysis can follow recognition, and upon analysis plans of action can be established. Our

'democratic system' contains a wealth of principle and so far has served our needs as no system has served others. Rather than despair or rather than accept the weaknesses in a passive manner without action, the pattern of democracy requires the continuous effort and participation of every one to provide strength and correct faults. The application of the combined intelligence of all specialized groups is necessary to cope with the modern problems; hence, I repeat, equal responsibility to do one's part is the heritage of all.

One Way Street

'There is no road back from the agricultural revolution that has been experienced during the inter-war period and World War II. I just don't think farmers are going back to horses and mules or discard hybrid corn and go back to open-pollinated. I don't think they will abandon soil-saving and improving practices.

'These revolutionary changes have come into full flower during the war, to be sure, but the stage was set long before the war. The depression of the '30's, followed by the drought, held these changes in check. The war needs simply broke the dam.' (Dr. Sherman E. Johnson, Assistant chief of the Bureau of Agricultural Economics in the U.S.D.A. Clip Sheet, October 20, 1946.)

'As of July 1st this year, the independent telephone systems of this country comprised approximately five and one-half million telephones—which is more than all the telephones in Sweden, Russia, Asia and Africa combined, plus a million more phones left over.' (Kellogg Messenger, published by Kellogg Switchboard and Supply Company, August, 1946 issue.) *Ed. Note:* The number of so-called independent telephones is less than 20 percent of the total number of telephones in the U. S.

It takes 1½ man-hours of labor on a dairy farm to produce enough milk to make 1 lb. of butter. (From release of American Dairy Assn.)

'It takes six tons of coal to make an automobile or truck weighing one and three-quarters tons. (*Automobile Facts*, October, 1946).

The agricultural products from 1,000,-000 acres go into the building of every 2,000,000 motor vehicles.

Between 1910 and 1940, says a Twentieth Century Fund survey, industrial production almost doubled, due chiefly to increased output per man-hour.

If all the productive equipment on this Continent were in operation continuously at its maximum efficiency, it would produce an abundance beyond the physical capacity of the population to use. There is no physical reason to prevent the social mechanism from being coupled to the physical requirements of the whole population. All that is necessary to bring this condition about is to change the operating rules. Join Technocracy and see how easy and how soon this can be done!

Contract of Citizenship

So You Think You Think

Part 2

By Roger Elgood, 12348-1

In the first part of this article, printed in the last issue, the nature of agreement was defined. The pig in a poke called the Four Freedoms that was unloaded upon a gullible world was dissected down to its bare bones. It turned out to be a stuffed dummy. Nevertheless, its skeleton will rattle in the Price System closet for a long time. The difference between the scientific and political approach to problems was outlined. Then the nature of our social problem was defined as being both a physical problem of production and distribution of abundance and a mental problem of straight thinking. The latter consists largely of cleaning the medieval rubbish out of our think tanks, and refilling them with scientific concepts. The process of how we get ideas was outlined and the incompatibility between our ancient, hold-over ideas and the facts of modern civilization clearly set forth. Copies of the last issue are still available for those who want to read the entire article.

Beware of Precedents

THE influence of pre-accepted aspects on seemingly similar problems has a great deal to do with our conclusions (or confusions) regarding our outlook on present matters. In our efforts to cope with the more complex present, we are induced to project into the picture pre-existing aspects as instruments for reasoning. At first glance they seem to be quite relevant. We employ these old aspects of a case in spite of the fact that they are not a true picture of the same sort of case today. They are something that has been passed on to us, more or less modified from time to time but nonetheless out-of-date. We accept them as pertinent because of their resemblance and through our credulity. We believe in them because some sort of evidence upheld them at one time. Therefore we *will* ourselves to believe they apply today without any evidence whatsoever. We cling to these 'steady habituation thoughts' with stubborn tenacity, encouraged in such views by those whose interest it is to discourage doubt with every conceivable means at their disposal. The last thing re-

quired of the individual by the proponents of the status quo is the tendency to doubt or the desire to find out. This is the strategy of tradition. Thus we confound what we assume to be original thoughts on a matter by preconceived ideas, ideas that are largely a reflection of the particular point of view on a similar subject that was in vogue at the time an aspect was first formed.

The history of events does not repeat itself exactly, yet it is on these past events that most tacit provisions of agreements are based. Furthermore, the particular sphere of society that has been occupied by the actual authors of an earlier aspect has a profound influence on the type of reasoning they employed and the nature of their point of view. The degree and type of education, the general contact of their environment, traditional and customary habits, all play their part in creating an aspect toward a subject.

The origin of similar and different opinions of one subject is infinite. Yet we apply this doubtful knowledge to solving our vital problems when this very diversity predicates contradiction. By employing 'aspects' in

preference to 'percepts' we express an opinion of a similar problem, but one that embraces entirely new factors. We ignore these factors largely because we do not understand them, and by not understanding them, we can easily induce ourselves to see things as we wish to see them. We visualize our outlook to suit our present knowledge instead of bringing our knowledge up-to-date with the evidence of the present situation.

And so we stubbornly champion our views with extremely 'valid' explanations, explanations devoid of any evidence or reason. So, for multiple unreasons we blithely discard logic in defense of our credulity, egotism and ignorance. Habit becomes unconscious. Thus by the process of steady habituation, unawareness and antipathy of any challenge results. Our aspects in time assume the quality of being axiomatic. With persistent repetition the act of stating a certain thing is so proves it to be so to the addict.

We are surrounded by the results of science and we approach that which surrounds us with minds devoid of the way of science, cluttered up with old aspects that knew it not. By mendacious distortion, we make evidence that does not exist. It has been said that the prosperity and security of this Continent depend entirely on our foreign trade. This means that before we can enjoy what we have, we must sell a good share of it overseas, in order to maintain 'purchasing power' for our people to acquire something they already possess. Even the 'evidence' doesn't make sense.

The problem of security is presented to us by the status quo with over-emphasis on an individual's 'freedom' to be independently secure by his own efforts. The main causes of our troubles are insinuated as being various maladjustments between the two distinct grooves of society in which

we are inadvertently channelized, i.e., chisellers and suckers. This is the modern version of the old strategy 'divide and rule.' Actually, there is no room for discrimination between these grooves in society today. All the rules of the Price System techniques are opposite and antagonistic to the problem today. Hitherto, man's fundamental rules to survive were essentially individual rules. Interdependence of individuals was of little moment to survival because of scarcity. Today the tables are turned. Survival depends entirely on the continued and progressive operation of applied science and technology. Owing to the complex nature and interdependence necessary to maintain our modern social-structure, survival is entirely a matter of close teamwork and integration of operations. Although hardly realized yet, life itself depends on this entirety, and abundance results from it. Abundance can be fully as deadly as scarcity if there is no access to it. So, although easy survival spells abundance, the attempt to distribute the abundance by a price depending on scarcity decrees annihilation. A system of society, wherein the more it produces the less it consumes is traversing per se a course of self-destruction.

Do we not realize that some degree of mendacity must be employed just so long as we have a system of society with different interests to serve. This Price System is NOT a social mechanism designed for a society with *one* interest, as an integrated whole for one common objective, SECURITY with the minimum of effort for all.

Every strategy employed to maintain the Price System of the status quo is based on prevarication, and aimed at credulity. The nature of the whole problem to perpetuate free enterprise decrees this must be so. In the face of the facts, its defense *must* be made by distortion. If this were not the case,

political and business propaganda would be unnecessary. The political solution to the problem of insecurity would by now be self-evident. Such is not the case.

Pinning 'Security' Down to Bedrock

In the foregoing part of this article an attempt has been made to pave the way for formulating a social agreement to provide a state of freedom from insecurity. Now we must clarify the agreement in order to know exactly what we mean by it. This suggests some pertinent and relative questions, each of which must be taken into consideration.

1. What constitutes economic security?
2. Do we *mean* for the whole of a population?
3. If so, can we reduce 'population' to a factor of life, common to everyone (regardless of race, creed, color, sex or economic level)?
4. Are there to be different degrees of security for certain individuals?
5. Shall the means of security of one be allowed to adversely affect the security of another?
6. Do we mean the *whole* of the resources, in the area under the control of a population, or only certain parts of it?
7. Can security be measured, or placed upon a measurable basis?

Unless we postulate an answer to these questions first, it is a waste of time to continue. Our work would be pure guesswork. This is exactly what our opinions on these matters are today when we appeal to that sacred cow of the status quo, the consensus of opinion. During the powwow some witchcraft having to do with the imponderable power of multiple opinions is expected to segregate a 'proper' opinion away from all the others. It is illegal to proclaim one's ignorance in

this respect to the world until one is twenty-one years old. After that age it becomes a civic virtue to do so. Such is the seriousness of nonsense. We insist that we can solve engineering problems by first deceiving ourselves.

As no government in the world has ever postulated as facts for common understanding any single one of these component parts involved in security (listed above) how could they possibly formulate an agreement having any real meaning? No hint of correlation in these questions has *ever been considered*, much less comprehended.

On this Continent it became self-evident that some underlying cause within the system itself was forever prohibiting security. Enormously increased production occurring simultaneously with progressive reduction in man-hours itself denotes insecurity. This amazing contradiction of the price economy annuls every concept of the 'governing laws of supply and demand.' For, within the Price System, the wages of man-hours are the 'low' demand for the 'high' supply of technological installation. Technology broke the back of orthodox economics long ago. We are trying to restrain price economy in a straight jacket constructed out of subsidies, price ceilings, floors and controls, restrictions, construction and destructions, and still it refuses to conform as its adherents 'expect and believe' it should. They do not know that the trend of events is a *physical* demand that will violently reject every compromise made, including the stupid ones.

However, the situation was recognized as a physical demand by a few engineers, scientists and technicians, back in 1919. This technical alliance investigated the matter as a problem of social mechanics, that is, as a whole. They dealt with the substance of human society at prevailing conditions *regardless of all previous concepts of*

society toward its substance. The facts could be disclosed as such by impartial analysis. Any synthesis for security arrived at without the foundation of these facts would not function. The aim would be pre-defeated. Engineers do not operate that way. So, before deciding first what to do about what, whose, how and where (like the Big Three agreement to the Four Freedoms) these men commenced by finding out who 'we' were, what 'we' had, where it was and how much of it was available. Just an engineering idea. First, a definite meaning for population must be established. They reasoned that every citizen consumed goods and services; class, desert or worth meant nothing to them. To consume is a *common factor of life*. That we are all consumers is a veritable fact, so they postulated that 'we,' the population, meant *all* the consumers, because this was a FACT.

Next they encountered a concept called 'property rights.' Being an imperceptible concept and hence not measurable, it was to them non-existent. The property rights of Tom, Dick and Harry prevent any clear and common understanding of the greatly misused term 'our America.' Our America can have real meaning only by virtue of the fact that we, the consumers, owe our existence to the perceptible act of utilization. The Continental resources, goods and services, are consumed by us because of our presence on this geographical entity. The act of utilization is a measurable chemical change. The consumers really have an unclaimed America. Here was another FACT. Our America meant the Consumers' America.

Having settled who 'we' were and whose America it was, the next step was to find out what America had for her consumers to consume. To execute this task, an energy survey of the whole Continent was conducted. By

intensive research every conceivable commodity requisite, natural resource, and installed energy-converting device was tabulated. In the course of this survey and subsequent research into its findings, the determination of energy relationships was established. This meant there was a common denominator between all the means whereby we live and what preserves life—ENERGY.

Analysis To Synthesis

By placing what we possessed on a measurable basis, it was possible for the first time in the history of man to state as a FACT just what economic security for all North Americans meant. They simply divided the population into the sum of the whole of the area's physical wealth. The answer was the available means of individual security for the population of the given area. This was all done in terms of energy because an energy unit is constant, never varies, and is applicable to every operation in our social system. However, it so happened that the answer to the above sum of simple division was *over and above* a sufficiency. There were enough goods and services even with obsolete methods of production in force to maintain the physical well-being of every citizen from birth to death with less man-hours of labor than hitherto. No service toward distributing or producing would be required of any one before the age of 25, or after the age of 45. Indeed, the scientific conclusion of the survey was that our potential wealth would provide every person on this Continent with a standard of living not less than eight times greater than that enjoyed by the majority at present. It was found that we had (in spite of our supposed insurmountable political problems) for the first time in the history of man attained abundance of goods and services. Adequate

distribution was the problem, not unemployment. By establishing as FACTS our questions numbers three, six and seven, they automatically answered all seven questions.

For the first time in history, economic security had a common meaning applicable to one continental population, North America. Even so, there was still the question *how to apply* distribution. These engineers realized there was only one method whereby this security could be effected. '*Functional control*' would be an indispensable condition to enable us to distribute our available security. The physical demand was now clear. It was not a demand for dictatorship or regimentation, the demand was for a common obligation to the culture of function, as the gateway to liberty, freedom and security. A conduct of mind applied to everyday life, that conforms to, instead of conflicts with our advanced way of life, the Power Age. (Remember, the intersections!)

Without this culture, so-called explicit and undefined tacit agreements on the subject of freedom from insecurity are purely a farce, a farce that will swing to tragedy should we fail in the conduct of our minds.

For a quarter of a century North American political and business leaders have sought to break the economic impasse. Indeed, the 'jobless' problem has assumed the magnitude and quality of an imponderable to many people. They shun and fear that which they do not understand, and most of them have never learned *how to think* in order to understand. Let's have an America void of all questionable agreements. Let's have security commensurate with that which is perceptible, attainable, tangible, verifiable, clothed in terms of existing quantities. Let us fearlessly measure these quantities both for use and replacement, and with this knowledge realize forever

that price never has and never can cope with plenty. Let us develop and apply this culture that is worthy of man in the place of a culture that has become largely one of withdrawn efficiency, artificial scarcity, waste and destruction, plus unequal advantage, manipulation and sinister intrigue.

Technocracy, Inc. has been called, amongst other things, a Body of Thought. The term is very appropriate, as without some discipline in the conduct of our minds, no progress can be made in the field of social mechanics. The Technate of North America is attainable *now*. It will be neither explicit nor tacit because it will be an agreement in accordance with the physical facts *at the time of fulfillment*.

One Continent, one people, one culture, one interest, one and indivisible. The only blueprint of Continental Unity and security ever offered is by the nature of things the *sine qua non* of any *sane approach to World Unity*. First things first! Grasp that which is within our reach before we reach for what we cannot grasp.

America must show the only way there is to achieve the Four Freedoms. It is the only entity in the world that is in a position to do so. Every requisite is at our bidding, *and within the Continent*.

Technocracy has stressed repeatedly that it is a voluntary act to acquire the necessary 'attitude of mind' for effecting functional control. The function of Technocracy Inc. is to assist the citizen to willingly acquaint himself with this culture. In this way alone will he be equipped to satisfactorily assist in the translation when the coming crisis occurs.

Can you qualify?

The Census Bureau estimates that nearly 27,000,000 civilians migrated during the war.

Buried Patents Department

By Research Division, 8741-1

We Shall Rise Again

Examples of new technology are numerous enough almost to completely fill up this magazine every two months. Within the space allotted, we attempt to illustrate only a few that are having a current social effect. We know at least something about the new technology that is being applied. However, we know very little about that possibly greater body of technology that is locked away and kept out of use. What social effect it would have on the Price System, we can only guess. Its potentialities must be great or else the free enterprisers who bury new technology wouldn't do it. The fact that they bury a part of the General Welfare when they bury new inventions, etc., doesn't bother free enterprise. From where they sit, the General Welfare is only an abstract concept. The business of Business is to make good business out of 'giving the business' to the people. 'If they can't pay our price for meat, let 'em eat cake.'

These observations were elicited by an article by W. A. S. Douglas in his column 'On the Sun Beam' in the *Chicago Sun*, May 14, 1946. He lists a number of buried patents as follows under the heading of 'Profit Motive Puts Several Useful Inventions in Storage.'

1. *The Everlasting Match.* This match which is good for over a thousand strikes and would sell for about a dime each was invented in 1928 by Dr. Ferdinand Ringer, an Austrian chemist. Ivar Kreuger, the crooked Swedish match king, bought the patent for \$500,000 and buried it. After Kreuger's crash, the patent rights went to an American-British combine. They

buried it too. Now it is said the U. S. Department of Justice has ordered it released for use. We'll see.

2. *Perpetual Depilatory:* This is a cream which if applied to the skin regularly will prevent hair from growing. It cannot do the skin any harm. It could do plenty of harm, however, to the razor, soap, shaving cream, etc. businesses. Its adoption by men generally would save the Continent between 10,000 and 15,000 tons of steel every year. Pardon us, we forgot. A little item like that is only an abstract concept to good old 'free enterprise.'

3. *Three-Filament Bulb:* This is an electric light bulb with three filaments. Only one burns at a time. When the first filament burns out, a switch over device throws the second into use, and so on. This would give a light bulb three times the useful life it has now. That's good technology but bad business, for the two or three companies who manufacture 100 percent of all the bulbs in America.

4. *Perpetual Flashlight:* This is a flashlight that can be recharged from the house current. No batteries are needed. Well, then, if put into use, no batteries could be sold. Can you blame any honest free enterpriser for stepping on such a menace? 'What's good for business is good for the people.' Ain't it a fact? Yes, it ain't!

5. *Anti-Friction Device:* Locked away in the safe of a great manufacturing plant is a new system of lubrication that would make cylinders last longer than the lifetime of the owner. The idea is said to have come from a woman war worker, who learned a lot about lubrication on her war

job. She worked out a new method in her spare time. Her employers were in the business of making cylinders. When this menace appeared, they bought the girl's idea, gave her an executive position, and promptly buried the whole thing.

Now, if the petroleum interests would only do a little high-class snooping around, they might be able to get the gist of this woman war

worker's idea. It could be that the new method might use more of our irreplaceable oil than older methods. In that case, it would be good business for the oil business to crack down on the cylinder business by setting up a dummy corporation to push the new anti-friction method. Everything would have to be on a sound business basis, of course. When the chisellers fall out, the suckers get a break.

Significance of Power

'When one considers the place of energy resources in world politics it at once becomes apparent that it was the nations which could command the greatest volume of energy resources which won the war. Electric energy from Bureau of Reclamation plants on the West Coast provided at least half of the energy used in building planes, ships, guns and tanks manufactured in that part of the country.

'Let me make this plainer. A primitive man working with his hands and rude tools can do as much work in a year as about 150 kilowatt hours of electric energy used through such modern appliances, as are found today in every electrified kitchen and barn. Now a kilowatt hour is the measure of electrical energy produced by one kilowatt of installed capacity operating for one hour.

'Present Federal plants in the Missouri River Basin have an installed capacity of 84,000 kilowatts and plants under construction will have 433,600 kilowatts capacity when completed. Plants contemplated would have 1,909,367 kilowatts capacity, bringing the projected total to approximately 2,500,000. Now if this projected capacity were to be run at only 50 percent of its possible capacity it would produce 10,950 million kilowatt hours of energy a year—energy capable of doing the work of 73 million men using primitive tools. It would be like

adding 73 million slaves who were fed from the energy of the Missouri River and its tributaries to the population of the basin.

'Let me draw one more parallel. According to careful statistical analysis the energy used per person for productive activity in the United States, when all forms of energy are reduced to the common denominator of kilowatt hours, amounted in 1937 to about 6,996 kilowatt hours. In France, where industrialization also has made much progress, energy use per capita was the equivalent of 2,811 kilowatt hours per year, while in China the energy used per capita amounted to only 164 kilowatt hours a year.

'What is true as between nations is also true as between States. It is in those which are highly industrialized, where the use of electric power has been most highly developed, that the most wealth is produced; and along with the wealth and higher income of the people go the opportunity to provide better educational and health facilities. In turn the higher health and educational standards of the industrialized states make it possible for them to advance still more rapidly.' (Address of Harvey F. McPhail, Director of Power Utilization, Bureau of Reclamation, before the South Dakota Reclamation Association at Pierre, South Dakota, on August 19, 1946.)

Primer of Technocracy

Government or Administration?

By Henry Elsner, Jr., R. D. 8342

Look Inside The Package

PROPERLY speaking, democracy is merely a form of government wherein the majority of the people are supposed to determine the governmental policies through their elected representatives. This method grew up in opposition to feudal oligarchies and autocracies in which a small group of men, or one man, ruled. However, due to the popular association of democracy with so many varied subjects coming under the generalized phrase 'the American Way of Life,' this definition of democracy will have to be expanded.

Let us call this expanded version of democracy 'spiritual democracy,' as contrasted with political democracy. Spiritual democracy consists of the things which many people really think of when they talk of democracy. These are 'the higher things of life,' liberty, pursuit of happiness, freedom of speech and freedom of assembly, to name but a few.

Now, what about both political and spiritual democracy in a Technate?

Political democracy is a form of political government. That statement of fact ought to be analyzed. The word 'government' is taken for granted in all discussions of political systems. But what is this thing called government? How did it originate?

Political government is a natural result of scarcity-economy operations. To simply illustrate how government may have arisen, let us take two men, Adam¹ and Adam². Adam¹ has, 'by the sweat of his brow,' acquired, let

us say, an amount of food or clothing or some other material valuable to his survival. Adam² is not able to obtain this item, due to its scarcity. He tries to steal it from Adam¹. If Adam¹ is strong, he will retain his possession; if Adam² is the stronger, he will take it from Adam¹. This was the method of existence during man's early stages.

As groups of men united in bands for protection from other men and from wild animals it became evident that dissension within the group was not conducive to the well-being of all. Therefore, they set up tribal councils to determine certain laws for them to follow in respect to property rights. Or, perhaps, the strongest man in the group assumed the position of dictator and made the laws for the entire group. These laws were arbitrary in nature, that is, they were nothing more than agreements among men to do, or not to do, certain things.

As mankind became more 'civilized' and barter grew up to evolve in turn into a system of monetary exchange, the laws and taboos of society became more in number and wider in scope in order to keep the system in balance. Here it may be noted that all political governments are nothing more than elaborate systems of cave-man society. The proof of the pudding is in the eating.

What do all of our duly elected representatives and their numerous appointees do in the process of running political governments? Obtain a list of your representatives' functions and study it thoroughly. An analysis will show one startling fact. All the duties and functions of government consist

of either modifying, controlling, or perpetuating the Price System. No government on earth was ever organized to eliminate itself. Every one, whether democratic, communistic, or fascistic, exists only to act as a referee for the preservation of the status quo.

New Times, New Methods

The possibility of abundance has changed the entire picture. In the Technate, with the abolition of money and profit, value and exchange, trade and commerce, all governmental agencies pertaining to these things will be abolished. There is no need for them. Political government will be non-existent in a technological society. Administration there must be, but political government, no. Full production and distribution are the prime functions of a Technate. There will be no special minority interests to referee.

If there is to be no political government, who will administer this new society? The answer is simple. The same type of engineers, technicians and functional people who are now operating production will continue to operate it. These are the 'general staff' of a technological society. If you can't understand this, note what confusion and uncertainty results when power lines, sewage systems, or water supplies fail. Technocracy is not trying to put any group 'in power.' It merely stands for the removal of the interference controls to correct operation of North America's technology. Minority group control, of any kind, would not be technological administration. It would be the same old Price System.

How, then, would the administration in a Technate be carried out? The plan is simple and well integrated. Each industry and service function will be organized into one continent-wide unit of operations, or Sequence. All told, there are perhaps 100 such Se-

quences. They will be inter-related for harmonious operation. The top officers of each sequence in a designated area will compose the Area Control Board of Administration. The top officers of each continent-wide Sequence compose the Continental Control Board of administration.

All officers of the Sequences will be selected exactly as they are today in industry, appointed from above. This method has been found to be the most efficient way of placing personnel. In this manner every man in a position where he must shoulder responsibility knows his job literally from 'the bottom up.' He will have been chosen by some one fully acquainted with his performance record. The individual who is incapable of administrative duties will have no desire to assume them. He could not gain social prestige or economic benefaction thereby. He would face only the prospect of embarrassing himself by his inability to perform his duties. Likewise, the appointing officer would have no desire to appoint an incompetent person to a responsible task. If he did, this would invariably show in the functioning of the Sequence and would reflect upon the ability of the officer. It is readily apparent that all ideas of political elections are not only needless but would cause intolerable confusion.

It might be added that there will be no 'concentration of power' in the hands of one individual. All appointments will be made by the officer immediately above the position to be filled, with candidates nominated from the position directly below the vacancy. The Directors of the continent-wide Sequences will select one of their number to serve as Continental Director-in-Chief. He will be the Chief Executive of the North American Technate. His term will last until death or until the regular retirement age of 45 is reached. He will be

subject to recall by a two-thirds vote of the Continental Control, and his decisions will be subject to a two-thirds veto of the Continental Control Board.

Equal But Not Identical

The fact that all theories of political government are abandoned does not mean that Technocracy thinks its social design would be a sugar-coated Utopia. While most of the causes of our present day inimical relations between individuals will be removed, Technocracy realizes that people are dissimilar and have their individual differences. For this reason, there will be one branch of the administration, the Social Relations Sequence, which will deal with relations between man and man and man and society. This Sequence, staffed by competent psychologists and persons trained to treat individual maladjustments, will have a branch in every Area Control and its Director will be on the Continental Control Board. Other functions of the Social Relations Sequence will correspond roughly to those carried out by the judiciary today. This is only a skimpy outline of the coming technological administration. There is much more to it.

Now, what about the other half of democracy' the freedoms. Freedom, like many other of our present-day concepts is purely relative. Freedom is the antitheses of suppression. Under the Price System we never had freedom from scarcity, poverty, unemployment, insecurity, ignorance, disease, inequality of opportunity, etc. These freedoms have always been suppressed. In the Technate there will be no reason for this suppression. The function of the Technate will be to produce abundance. Is it so hard for us to imagine an abundance for every one without a loss of freedoms we've never had? It seems so. This is be-

cause we are being subjected to one of the most gigantic programs of propaganda conditioning in history. The central theme of this is: 'You can have your choice, freedom or security—one or the other, but not both at the same time.' The truth is that security is freedom from the suppression of freedom.

Why should there not be freedom of religion when no one would stand to lose or gain economically by whether one belongs to one church or another or to none at all? Why should there not be freedom of expression when society as a whole, or even groups of individuals, will have nothing to fear from such expression? The Technate is designed to be flexible in operation so that new ideas may be incorporated into its structure. There would be no gain to be had from upholding the status quo as is the case today.

In a Technate freedom will be as much a part of everyone's daily life as the air he breathes. History students of the future will be amused by the emotionalistic discourses on something which they have come to accept naturally. They will smile at references to some vast all-powerful entity, a special class in itself, called 'government.'

These statements are not the result of the wishful thinking of idealists. They are the outline of a social system designed by down-to-earth scientists and engineers. This social system of abundance can be installed whenever the American People demand it. What are we waiting for? Let's unite and operate to provide an abundance of goods and services for all North Americans. By so doing, we can acquire those much desired things that men have sought vainly for elsewhere, all down through history.

Join Technocracy and help to build the New America!

In the Question Box

Be Ready To Move

By Speakers Division, 8741-1

You say Science will overthrow the superstructure of finance. It seems that the big boys of finance will have something to say about this. What *exactly* is Technocracy's plan for wiping away the Price System?

THIS question was received at a public meeting. It seems that the questioner has a lot of faith in the 'big boys of finance.' His 'faith' may even extend to the belief that the superstructure of any social system upholds its foundations, instead of vice versa. This is the kind of phony education the Price System thrives on. Then again, it may be that the questioner is merely afraid of the 'power' possessed by the 'big boys of finance.'

In either case, the big boys are not worth worrying about. Let 'em strut. When the foundations of the Price System have crumbled away enough so that the superstructure topples, the big boys on top will disappear like magic. They will fall further and hit bottom harder than anyone else, precisely because they're on top now. Their 'power' is contingent upon the continued existence of the status quo. When that goes, they go too.

The social change that is coming in North America will be unlike any previous change in history. In fact, there never has been a social change anywhere, yet. What has gone under that label in the past has been a number of transferences of political, economic and clerical control from one group to another. Underneath, the system of production and distribution of physical wealth always remained the same. The great mass of people found no change in their daily lot. The Price System, as such, was never involved in these social upheavals and revolutions.

Now, however, the Price System is involved. In fact, it's head over heels in trouble so deep that it will never come out again. The trouble the ancient Price System is in now is something it never had to contend with before. The trouble is Science and Technology. Their growth in the last few hundred years has become interwoven with the Price System of trade and commerce. Today, it is impossible to separate them. Science and Technology have created a set of physical conditions that poses insoluble problems under the Price System. Just what these consist of can be learned by joining Technocracy, and attending its Study Classes.

This information is not available anywhere else. You wouldn't expect the Price System to expose itself, would you? How could it when the only correct solution to North America's social problems involves its own abandonment. Would you like to be abandoned? So, you can quit looking elsewhere for the wrong answers and come to Technocracy for the correct one.

Science is not overthrowing the Price System. Science doesn't overthrow anything. Science is a body of organized, factual knowledge. It is something that just IS. There is no body of scientists organized for the purpose of overthrowing the Price System. Technocracy is not organized to overthrow even a hamburger stand. The worst thing that could happen to 75 percent of North America's people (death) would be for some maniacs to overthrow the Price System. The continued existence of the population of this Continent depends utterly on the continued operation of the installed

technology. Yet, it is the Price System itself that is courting disaster to all, by its failure to operate that technology correctly.

The Price System is overthrowing itself. It is committing hari-kiri. Its blind, greedy, stupidity knows no limit this side of its own extinction. Its refusal to amend or adapt its ancient institutions to modern needs is the real revolutionary force. The Price System is unable to operate technology correctly for the General Welfare by Price System methods. It can't use technological social methods and remain a Price System. So, there is an impasse. In the meantime, social problems get worse, social tension and unbalance increases. The breaking point is not far away. The danger is that the

Price System may collapse sooner than we think.

Technocracy hasn't got the ghost of a plan to wipe out the Price System. But, it has a beautifully worked out scientific design of social operations to take the place of that Price System when it wipes itself off the face of this Continent. We must be ready for that happy day, so as to stall off chaos. That is the work Technocracy is doing. It is the most important job on this Continent for this generation. Why not quit worrying about the 'big boys of finance' and get active for the hundred-odd million regular people in America! The 'big boys' are eliminating themselves. Let's make sure they do a permanent job of it by being ready to move into the *Technate of North America*. Catch on?

Correction of Errors

Great Lakes Technocrat has made three mistakes recently that it knows of. Herewith, we wish to correct them.

1. In Volume III, Number 12, September - October, 1946, it is stated that 'a good man and three good horses can plow about 10 acres a day.' The figure should have read 3 acres a day.
2. In the same issue, on page 33, it is stated that about 4,000,000 G.I.'s are going to school under the G.I. Education Plan. We took the word of a top Veteran's Organization official on that. No official census has yet been released on this, but recent estimates indicate the figure runs around 1,000,000.
3. In the November - December issue a regrettable printer's mistake occurred. The credit line

was omitted from the picture on page 25. The picture was reproduced from a cartoon by Vaughn Shoemaker in the *Chicago Daily News*, May 24, 1946. *Great Lakes Technocrat* is glad to give credit for this picture.

The Myth of Race

'America, which never knew feudalism, has established another hierarchy—a racial one.

'The English, Scotch and Irish are the aristocracy. After them come Scandinavians and Germans, and then the French and Slavs. The Italians are many times lower. The Jews are even lower. Puerto Ricans are below them and the last at the bottom of the ladder are the Negroes.' (From an article by Ilya Ehrenburg in *Izvestia*, as quoted in the *Chicago Daily News*, July 24, 1946.)

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933.

OF GREAT LAKES TECHNOCRAT, published bi-monthly at Chicago, Illinois, for October 1, 1946.
STATE OF ILLINOIS } ss.
COUNTY OF COOK }

Before me, a Notary Public, in and for the State and county aforesaid, personally appeared R. B. Langan, who having been duly sworn according to law, deposes and says that he is the Editor of the GREAT LAKES TECHNOCRAT, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse side of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor and business managers are:

Publisher—Section 1, R. D. 8741 Technocracy Inc., 3178 N. Clark St., Chicago 14, Illinois.

Editor—R. B. Langan, 3178 N. Clark St., Chicago 14, Illinois.

Business Managers—None.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

Section 1, R. D. 8741 Technocracy Inc., 3178 N. Clark St., Chicago 14, Illinois, which is a chartered unit of Technocracy Inc., Continental Headquarters at 155 E. 44th Street, New York 17, New York, a non-profit, membership, educational organization, with no stock or stockholders. The Officers of Section 1, R. D., are: O. Floyd, Director; Lilly Yngve, Secretary; John Beverleigh, Chief of Staff; E. Nelson, Treasurer all with addresses at 3178 N. Clark St., Chicago 14, Illinois.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant had no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

ROBERT B. LANGAN.

Sworn to and subscribed before me this 26th day of September, 1946.

JOHN G. FRIENDLEE,
Notary Public.

(My commission expires March 9, 1950.)

Some Technocracy Section Addresses in Great Lakes Area

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8342- 2—112 N. Tasmania, Pontiac, Mich.

8343- 1—6717 N. Saginaw St., Flint 5, Mich.

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TECHNOCRACY

NORTH AMERICA'S ONLY SOCIAL DYNAMIC

WHAT?

★ Technocracy is the only North American social movement with a North American program which has become widespread on this continent. It has no affiliation with any other organization, group or association either in North America or elsewhere.

★ The basic unit of Technocracy is the chartered Section consisting of a minimum of 25 members and running up to several hundred.

★ It is not a commercial organization or a political party; it has no financial subsidy or endowment and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$5.00 which are paid by the member to his local Section.

★ Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHERE?

★ There are units and members of Technocracy in almost every State in the U. S. and in all Provinces in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces.

★ Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHEN?

★ Technocracy originated in the winter of 1918-1919 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934, Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundations of the present nation-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHO?

★ Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this continent. Membership is open only to North American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective political office or active office in any political party.)

★ Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—as long as you are a patriotic North American—you are welcome in Technocracy.

**Great Lakes Technocrat,
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VETERANS, WAKE UP!

Yesterday Is Stealing Tomorrow

By Ralph Herring, 8342-1—(Veteran, World War I and II)

Old Men Of The Price System

As we witness the clash of interests at 'United Nations' Conference, it reminds us that the old men are at it again, just as they were after the First World War. Practical methods for stopping war get no consideration. The old men talk of world finance, business, politics and ideologies. When they have written their 'peace' in the terms of their 'yesterdays' we who waged this war will have to live in their 'tomorrows.'

Let's recall the words of Colonel T. E. Lawrence (Lawrence of Arabia). After his experiences in World War I and the framing of the 'peace' he wrote

When we had achieved, and the new world dawned, the old men came out again and took from us the victory and remade it in the likeness of the former world they knew. Youth could win, but had not learned to keep, and was pitifully weak against age. We stammered that we had worked for a new heaven and a new earth and they thanked us kindly, and made their peace.'

In the last 3500 years, the old men of the Price System have given the world only 330 years of peace. Dare we look to them again for that which they gave so niggardly in the past? World War II was won by the application of modern science to warfare. It was applied by engineers and technologists. No one could possibly understand as well as they how greatly Science has invalidated the old world of yesterday and remade it into something new. Yet we look in vain for the names of scientists, engineers and technologists on the roster of 'peace' delegates.

Let's Be Done With Futility

Shall we, too, yield up our victory to the old men as our fathers did, and as their fathers did, generation by generation back for 35 centuries? Or, shall we turn to the scientist, engineer and technologist who in one century and a half have remade America from a hand-tool, agrarian culture into a technological civilization? They know how to build an enduring peace. Engineering is largely a matter of knowing what will work and what not to try. It deals with physical things. Social engineering is the same. Peace is a physical, social problem. Let's look at it from that viewpoint.

Obviously, any nation not possessing the physical equipment with which to wage war cannot engage in it. North America, together with the USSR, possess within their borders over 80 percent of the world's means for waging modern warfare. A military and economic alliance between these two Continental Areas for peace and prosperity could easily stop war all over the world by merely stopping all exports for war purposes from within their domains. A guaranteed world peace is as simple as that. Some Americans may object on the ground that a conflict of ideologies makes such an agreement impossible. To them we can point out that the likelihood of reaching an agreement between the two major powers is well within the bounds of probability, as contrasted to the impossibility of achieving harmony among the hodge podge of 54 conflicting interests and ideologies.

You have to live all the rest of your lives in the future. After that comes your children's future. **VETERANS, WAKE UP!**

GREAT LAKES TECHNOCRAT

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Illustrating the Futility of Price System Methods of Operation; Interpreting the Trend of Events from the Social Aspects of Science; and Presenting the Specifications for Total Mobilization for Peace!

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Give Me Technocracy

By Education Division, 8741-1

How far back in the past the first process of communication began, no one living today knows. But out of that crude beginning man has advanced slowly up the ladder of civilization. With the formation of an alphabet and the growth of language came the ability to communicate one with another by the spoken word; and to keep records of knowledge and discoveries by the written word. Without this ability to pass knowledge on from generation to generation, man would still be back in some primitive stage of civilization.

Today we are in possession of a great body of knowledge. We are the heirs of all the past generations. This accumulated knowledge and the way it is applied to the industrial arts makes possible today's American standard of living. How can men expand that accumulated knowledge and improve its application to the industrial arts for the greater benefits of their fellowmen? Here in North America this question is of greater importance than in any other area on the globe. For on this Continent the application of science to the operation of the industrial arts has reached a stage of advancement that far surpasses any other area on earth. In this article, we give a short outline of advances in the methods of communication in the United States.

Old Days, Old Methods

WHAT methods of communication were available to Americans in the 1776? We know that there was a well established language. Crude printing presses turned out newspapers, books, and other periodicals. Messages could be sent by smoke signals, beating of drums, semaphores, and homing pigeons. The written message was delivered by runner, stage coach, horse and rider, or vessel. Other messages, rumor, gossip, legend, and other misinformation were delivered by word of mouth just as they are today. The stage coach carried most of the mail on land. It traveled at the rate of 4 to 6 miles an hour depending on roads and weather conditions, and then mainly in the daylight hours, traveling seldom at night. The sailing vessel took a month or more to reach England. It averaged approximately 4 miles an hour. The river scow was only slightly faster when it went down stream. Those

methods of communication used by Americans in the year of 1776 had been in use for centuries with very little change. They were sufficient to meet the needs of that day's agrarian society with a population of approximately 4,000,000 people. Those methods still remained in use for a considerable part of the 19th Century for most Americans.

The first railroad was built in 1830 and marked the start of faster transportation and communication on land. In 1838 the S.S. Great Western crossed the ocean in 14 days. On May 24, 1844, a successful test of the telegraph was made. This was between Washington and Baltimore, and did not affect the rest of the country outside the eastern seaboard for many years. The Chicago Historical Society shows how little the telegraph meant to a Chicago newspaper of that time with a reprint of a news item that appeared in *The Chicago Democrat* of November 13, 1844: 'We have

kept our papers back one day in hopes of getting news from New York. But, we have received no mail since Saturday morning last and the mail boat had not arrived, Wednesday at 8 a.m. when we went to press.' That was just 100 years ago. The West was still a wilderness, and Chicago was little more than an expanding trading post.

Dawn of Technology

The first telegraph line reached Chicago in 1848. January 15, 1848, the first telegraphed message went over wires between Milwaukee and Chicago, and on April 6, 1848, Chicago received its first telegraphed message from the east. Further west the stage coach was still the most stable means of communication until the spring of 1860 when the pony express was put into operation. It only operated 18 months before it was put out of business by another advance of operating technology in the form of the transcontinental telegraph system. This system went into operation on October 24, 1861.

July 27, 1866, witnessed the first cable message to cross the ocean. It had taken 13 years of effort to lay the cable across the Atlantic from continent to continent to provide a path for that and subsequent messages. These and all telegraph messages were sent in codes employing dots and dashes to represent letters. This required interpretation by skilled operators and the completed message still had to be transported to the person to whom it was addressed by messenger traveling over the then available means of transportation. These services were used mainly by commercial interests and the few people who could afford to pay the rates. They were also limited to the large towns to which the main telegraph lines

were strung. In 1876 the telephone entered the picture. Telegraph lines were still being strung and the telephone in its infancy offered no great competition to the telegraph system.

Like all great new innovations it was regarded by the general public as a toy. Because of its crudeness and complicated operation in order to establish connections for calls it did not expand very fast in its first years of operation. Research and the advance of technology in its related fields improved its operation. Its use then continued to expand until it far surpassed the telegraph as the best method of communication. The telephone's appeal to the public lies in its ability to establish a faster two way personal contact far more private than the telegraph or radio.

The wireless was the next forward step in communication. Marconi in 1898 succeeded in transmitting messages across the English Channel. In 1901 he was able to transmit messages across the Atlantic Ocean. The first widespread use of the wireless was in ship to shore service. The Radiotelegraphic convention in 1912 established the S O S (... --- ...) signal for ships in distress. Think of it! Just a little over 34 years ago, when a ship left port, its passengers were lost to the rest of the world until they showed up in another port. If they ran into trouble at sea they were helpless to summon aid. Out of the regular trade routes their chances were slim of sighting another ship from which to obtain aid. Many were the ships and passengers that disappeared without leaving any record of when or where they met their fate. The wireless changed that. Now ship and passengers have a greater chance of survival if they run into unexpected trouble. What's that? Was somebody still thinking about the good old days?

The development of radio through the refinement of broadcasting and receiving sets made commercial broadcasting possible, and in 1920 the first commercial broadcasts went on the air. Remember the old earphones, and the squeaks and squalls of the first crude sets? It didn't take very long for research to devise better and better sets. Does any one miss those old time sets? Not so you could notice. They are asking for more improvements, such as frequency modulation and television. Americans want to go forward, not backward.

The telephone and the radio expanded at a rapid rate after World War I. In 1920 there were approximately 12 million telephones in operation in the United States in all systems. Today there are over 22 million in the Bell System alone. In 1922 there were only 260,000 receiving sets in American homes. In 1945, the total number, in homes, automobiles, etc., was 56,000,000. In 1936 a man's normal voice could travel around the world by telephone in less than one-third of a second. This is less time than it takes a healthy man's shout to travel 400 feet.

Today the U.S.A. is spanned by a network of wires. Toll cables cross the continent from east to west and from north to south. Many wire paths tie all our major cities together. Farmer lines tie the farms to the village and toll lines tie the village to the city. In 1943 there were 911 standard broadcast stations licensed in the U.S.A. About 550 broadcast stations in the rest of the world. The news is available to all those who have receiving sets in their homes or car by merely turning a dial. It has been quite sometime now since Chicago had to depend on an inland mail boat for its news. In fact the majority of today's

Chicagoans never knew that a mail boat had ever served their (fair?) city. The written message today travels by airplane, fast train, and fast ocean liner.

The automatic telegraph was introduced in 1939. With this service the individual writes his message on a telegraph blank, drops it in an automatic telegraph cabinet, pushes a button and electricity automatically sends it on to the proper receiving station, where it is sent out to its ultimate destination by telephone or messenger. This service isn't in widespread use as yet. Another service whose widespread use is blocked for financial reasons is the tele-line-a-type. With this service it would be possible for an operator at some central news service bureau to automatically operate and set up type in the other newspaper offices throughout the country.

The teletypewriter is used extensively by corporations and other large commercial interests. With this service a stenographer can type orders, letters, or messages to a corresponding machine or machines in other offices in the U.S.A. that can be connected to her machine. These messages can be typed at the rate of 60 words a minute. Later machines operate at the rate of 100 words per minute. Western Union Telegraph Co. uses a similar type of machine. We now not only speak over and send messages by wire but also send pictures by wire. Practically all of our newspapers subscribe to this service. Radio television has been in operation for years and only awaits further technical refinement to make it financially profitable to bring it into widespread use.

Speed and dependability based on technically designed equipment operated by electrical power and a small amount of human effort makes today's methods of communication pos-

sible. Technically we can do even better in the future. Looking into the past, we can readily recognize the change that has taken place in the communication field, since the year 1776. In America the stage coach, runner, pony express and inland mail boat have long ago moved into the limbo of the past, and no sane American would advocate returning to them.

Trends Point One Way

Neither can we return to the days of the building of our present communication systems. The open wire lines, aerial and underground cables, radio transmitting stations, sound studios, telegraph offices, and central telephone exchanges are in existence and operating. They don't have to be built over again. While they may be enlarged and improved, this will not require the amount of steel, copper, lead, zinc, wood, etc., that it originally took to build them. The expansion can also be accomplished in a shorter period of time. In the communication field, the Bell System offers the best statistical data from which we can get a graphic picture of the industrial growth of 80 percent of the telephone industry. What statistics are available for the other 20 percent (the independents) point in the same direction. The Bell System statistics are taken from the annual A.T.&T. Co. stockholders' report.

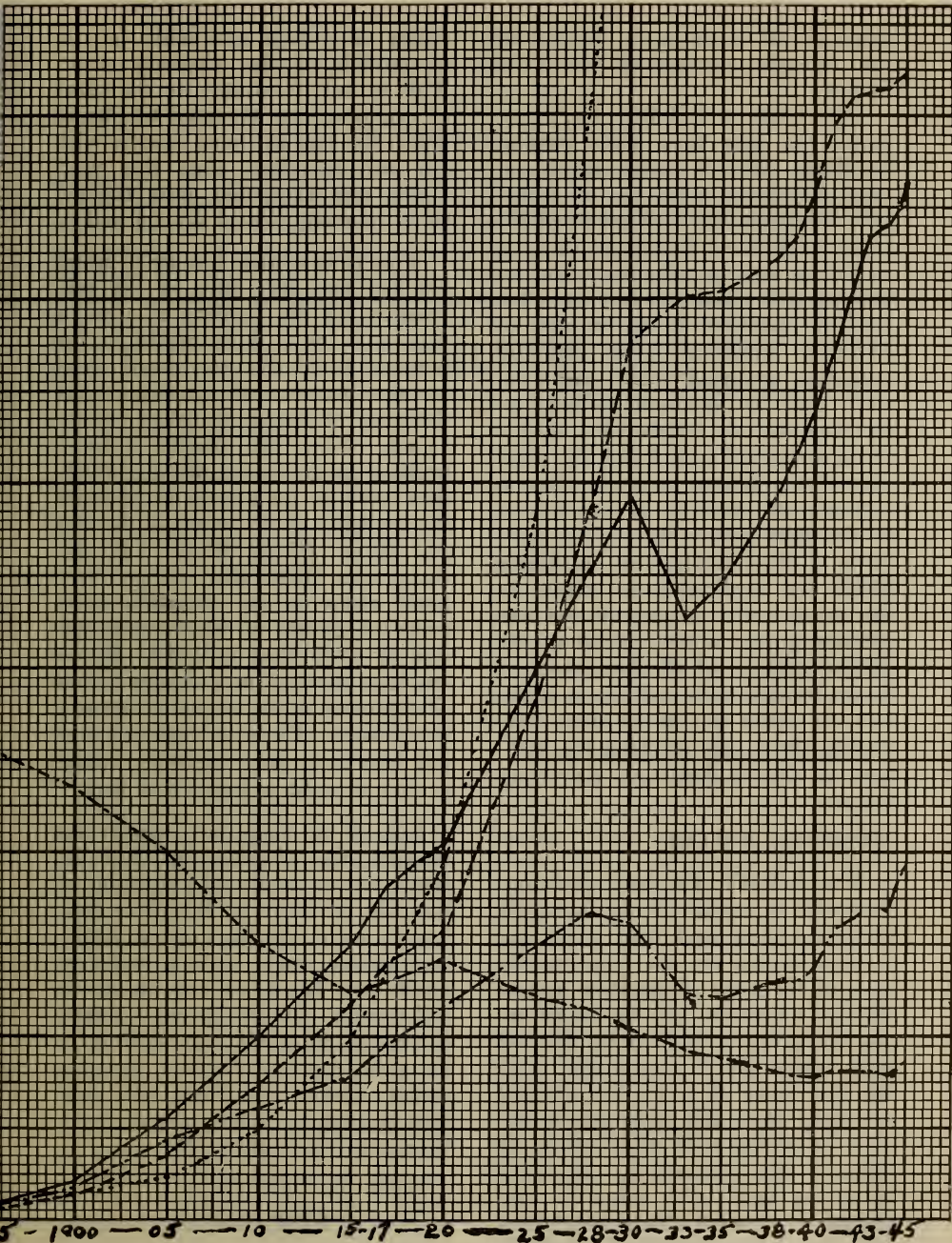
In this graphic picture we have drawn a theoretical curve based on a compound interest type of growth. This is the type of curve most business men visualized as a natural law of a private enterprise (Price System) economy. There is nothing physical in this world that follows such a curve. But the Price System growth of debt does follow a similar pattern. How-

ever, the only thing physical about that is the paper on which it is written.

American Classic

...This chart is typical of all the major industries in this country. Starting at a small scale, gaining momentum with each passing year until physical or price system factors bring about a slowing up in the rate of growth, and a leveling-off stage is reached. This is called the S type growth curve. Based on the preceding chart, the Bell System is entering that leveling-off stage of its growth curve. The A.T.&T. Co. has laid out and publicly announced a vast expansion program scheduled for the postwar period. This program calls for the expenditure of \$2,000,000,000 to catch up with the backlog of service orders, replace obsolete central office and subscriber line equipment, improve rural service, continue the conversion of local manual central offices to dial, provide operator dialing on toll circuits, provide equipment for subscriber dialing of short-haul toll calls, strengthening of the toll network by adding a new transcontinental coaxial cable, plus other toll routes, extension of the radio-telephone field, and provide more facilities for future subscriber growth.

This is quite an ambitious program and one worth embarking on, for it would provide another further advance in America's operating technology. While the physical factors of men, machines and materials are readily available to do the job, the price system factor of the consumer's ability to pay for the services (thus guaranteeing the company a profit) will be the deciding factor as to how far that program will be carried out. Back in 1930, the A.T.&T. Co. had a similar program for that future. As the chart points out, however, the A.T.&T. Co. had to defer that expansion



1 square in height equals 800,000 miles of wire.
 1 square in height equals 1 employee per thousand telephones.
 1 square in height equals 10,000 employees.
 1 square in height equals 200,000 telephones.
 Theoretical curve based on the growth of the number of telephones.
 2 squares in length equals one year.

program for many years, because of the financial dictates of the Price System.

This latest of A.T.&T. Co.'s programs has only been made possible by World War 2, under which another wholesale expansion of America's debt structure took place. Additional millions of Americans thus acquired enough purchasing power to pay for more goods and services. That this was acquired at the expense of 350,000 American lives, 800,000 American wounded (U.S. and Canada), and the enormous wastage of North America's irreplaceable natural resources seemed to be beside the point (the Price System point). This is but another example of the dictates of the Price System financial control. It is a dictatorship that ruthlessly blocks the application of science to the social order. It puts vested and pressure group interests ahead of the general welfare of all Americans. It fosters internal strife and tries to maintain the status quo at all costs, promoting chaos, and blocking the pathway to North America's greater destiny.

Technology Will Out

The A.T.&T. Co. had ample opportunity to employ many thousands of men and expand their plant and facilities during the idle 30's, but the rules of the game of the Price System dictated otherwise, and the major expansion program had to be deferred until World War 2 came along. After the low point of 1933, the physical telephone plant and subscriber equipment in service once more started to advance, but employment continued to decline until 1935 before it, too, started an upward climb which was very slow when compared with that of the expansion of the physical plant. From the year 1895 the rate of growth of employment in the telephone in-

dustry never kept pace with the rate of growth of the telephone plant. This is well illustrated by the curve of employees per thousand telephones which has been declining steadily with but two exceptions since that year. Those two exceptions were the periods involving World Wars 1 and 2.

This is significant because it brings out the fact that only in the preparation for, the fighting of a major war, and for a short period in the postwar could the downward trend in the number of employees per thousand telephones be halted and reversed. While the present statistics bring us only through the year 1945, they carry us far enough to illustrate the similarity of the trends of the first and second World Wars. The statistics also show that we are very much nearer to the saturation point as to the number of telephones in service in 1945 than in 1919. So we can look forward to a shorter period of expansion of the telephone industry in the future. The new employees may not have as secure a monetary future as they thought or hoped they had.

Like all the major industries in this country, the telephone industry depends on the continued expansion of the debt structure of this Price System in order that the mass of American people may acquire sufficient purchasing power to buy its goods and services. But we cannot continue to expand the production facilities or the debt structure forever! Another period similar to 1930-1939 will soon be upon us. What happens then? What can we do about it?

JOIN TECHNOCRACY AND
FIND OUT!

There are 155 separate police forces in Cook County, Illinois.

Banker's Dilemma

Repeal The Law of Gravity

By L. W. Nicholson, R. D. 8234

'At the present time credit is the most gigantic species of property in this country, and the trade in debts is beyond all comparison the most colossal branch of commerce. — The merchants who trade in debts, namely the bankers, are now the rulers and regulators of commerce; they almost control the fortunes of States. As there are shops for dealing in bread, in furniture, in clothes and other species of property, so there are shops, some of the most palatial structures of modern times, for the express purpose of dealing in debts; and these shops are called banks.' (H. D. McLeod in THEORY OF BANKING AND CREDIT.)

Oh, To Be A Monkey!

A SALUTE to the Bankers! And to Charles S. Garland, president of the Investment Bankers Association, an extra pat on the back.

According to the A.P., Mr. Garland, who attended an I.B.A. Convention at Palm Beach, Florida, in December 1946, made a statement which is noteworthy. He stated that investment bankers 'are just as confused as other business men as to where the country is heading.'

It is not difficult to understand why these gentlemen are confused, since they apparently have not taken the trouble to inquire into the fundamental nature of the commodity which they buy and sell, namely, debt. Money, according to Professor Soddy of Oxford University, is: 'The nothing you can get for something before you can get anything.' It can be created by the use of ink on paper. Physically, it is worth only the physical cost of the ink and paper. It has no other value except in the minds (?) of men. The 'minds' of men do not place exchange value on a commodity unless it be scarce. The air we breath is not scarce, and the bankers and business men, as yet, have been unable to make it scarce. Hence, it cannot be bought, sold or traded.

Today, bankers are asking for higher interest rates. The solution to this problem is so simple a quarter-wit could find it in less than five minutes. When the price of cotton dropped, the politicians, being afraid that they would not be reelected, solved the problem by paying the farmers to plow it up and not to plant so much next time. Pigs, fruit, wheat, potatoes and many other commodities received the same treatment.

When production became too abundant (for the market, not for the people), business turned loose both barrels. Not only was production slowed down, but shoddy goods were made. Both increased scarcity and raised prices. Politics and business understand well the prime necessity for scarcity.

What the bankers need to do is to stop using so much ink and paper in the production of money. This will increase its scarcity, people will think they need a larger share of the scarcity, and will be willing to pay a higher rental for a loan. There is only one little catch to this, and that is, the bankers will first have to repeal the impact of Technology. Some job! No wonder the IBA is 'confused.'

We don't blame them. After all, bankers have to obey the Rules of The

Game of the Price System. These dictate that they must buy debt low and sell it high. It's just hell when you have to sell it low. No wonder the banker is called the meanest man in town.

If monkeys on an island had all the cocoanuts they needed, they could throw half of them in the ocean and

have a scarcity. But no monkey would be such a fool. Only a moronic Price System operates like that. No monkey has ever talked himself into believing in an economic system which could operate only under scarcity conditions. What a bunch of suckers men turned out to be in supporting the Price System. Maybe Barnum was right!

Move Or Be Chewed

'I am deeply disturbed about the lack of economic understanding in America, particularly among those who make the most vital decisions. I found the greatest awareness of economic principles among the workers on your assembly lines. Most of the business men with whom I talked seemed dangerously ignorant of what makes your economy function. But the greatest ignorance of all is displayed by your bankers.' Observations of a prominent British industrialist to an official of the U. S. Government last winter. (As quoted by *Local 600's Ford Facts*, January 11, 1947.)

'At the top of the boom period when the pipelines of production are full, the major emphasis of typical research programs should be directed towards cutting production costs in order to increase the net profit by lowered labor cost. In times of depression such as the turbulent 30's the major emphasis is on new products and new fields of application.' (Maurice Holland, industrial adviser in the *Chicago Journal of Commerce*, January 6, 1947.)

(Ed. Note: In other words when pickings are easy that's the time to grab all you can grab, even the part that can be grabbed by cutting labor costs, even though this cutting of labor costs reduces the purchasing power that made the grabbing possible in the first place. Then when times get tough because of the application of the above process you look around for a new line to pitch at the suckers. Now we know at least one reason why the Price System is doomed.)

A diversified group of 25 corporations has announced an increase in expenditures of 48.2 per cent for expansion and modernization of production facilities for 1947 as compared with 1946. The difference amounts to an increase of \$115,125,000 for new technology. (*Chicago Journal of Commerce*, January 6, 1947.)

'Worker effort is, however, not the thing that has given the U. S. a steadily increasing standard of living and an increasing level of real wages. Neither for that matter is union organization, which for the most part simply exacts a bigger share of the productive pie for special groups. What creates more wealth is invention and technology, which put better and better tools in labor's hands.' (*Fortune*, December, 1946.)

'The security, growth and profits of industry in the future will depend on technological improvements, not on financial manipulations.' (Dr. Jesse E. Hobbson, director of Armour Research Foundation of the Illinois Institute of Technology in the *Chicago Journal of Commerce*, January 6, 1947.)

In a high-powered age nothing is permanent but change. You are in the parade and you cannot stop it. All you have to do is to stand still a little while to be under it. You might get a worm's eye view for a minute before you become hamburger. Move or be chewed.

Language Of The Cash Register

'Make It Pay, Boys'

By Roger Elgood, 12348-1

'The outlook of the scientist when he turns his attention to the problems of social organization is essentially constructive . . . The standpoint of the economist is essentially obstructive . . . When the engineer says that a social amenity is technically realizable and the economist replies that it would not pay, the issue involved is merely one which concerns the "original definitions of the subject-matter" . . . All they (economists) contribute to the discussion is the information that they agree among themselves to use the verb to pay in an anti-social sense.' (Lancelot Hogben in his book, 'Retreat from Reason,' pages 70, 71, 72.)

Me First or All Together

Technological advance is posing the problem of revising and restating terms that have hitherto had common understanding in a pro-social sense, but which in application now prove to have a strictly anti-social effect.

The function of Technocracy is to present to the people of this continent the results of the impact of technology on our social system. A large part of this impact is upon our obsolete concepts born of a pre-technological age.

Few educationists have yet turned their attention to our capacity to produce and its relation to the entirety of social operations. Technocracy is unique in that it is the only educational organization emphasizing the importance of a particular attitude of mind in dealing with social problems. The culture of Function is the outcome of the scientific point of view applied to society. The engineer applies this mental process to his engineering problems for functional results.

Technocracy has stressed consistently since its inception that the criterion of all seats of learning IN THIS DAY

AND AGE cannot afford to be less than that set forth originally by the pioneers of modern science. These men valued 'no knowledge save as it hath a tendency to use.' Modern civilization owes much to this axiom, but is now in a fair situation for owing its demise to a departure from it. Civilization cannot go in two directions at one and the same time. Therefore, we will soon be called upon to decide in which category we are to value knowledge; that which hath a tendency to use for man as an individual, leading society downwards; or that which hath a tendency to use for man in the aggregate, to lead upward and onward.

Knowledge that tends solely to immediate gain for an individual but is fundamentally of misuse for society at large cannot be construed as 'valuable' in a social sense. In the last analysis it is anti-social, or nationally criminal. The scarcity conditioning that man has been subjected to in the past has caused him to VALUE many concepts that are detrimental to social harmony and amenity. Today these are positively dangerous to the continuity of his present power civilization. The keynote to this continuity

is its interdependent structural nature, the integrated operation of which is the means whereby we live. In other words, the natural counteractive to our faulty attitude of mind is the coercion of technology. This being inanimate, the problem of correct action is thrown where it rightly belongs, upon man's mental ingenuity. Technology is applied science, and brooks no evasions or compromises. It demands a certain type of action. It defines the 'use' of knowledge necessary for survival by the term 'functional.' This definition is not academic but endemic to the age in which we live.

Technocracy's curriculum is designed to instill knowledge that will be valuable because of its tendency to use facts in arriving at conclusions. This type of knowledge alone is capable of leading to the discovery and understanding of faulty social conditions and their correction.

Business Before Patriotism

The advent of World War II saw the most spectacular display of patriotism at a price ever witnessed. The refusal of free enterprise to accept war material contracts until the limited Profits Act was repealed by order in council denoted that business defined patriotism in terms of profit.

In this instance, their guilt went beyond the anti-social use of the verb 'to pay.' Their attitude was treasonable negligence. The like of this would have merited facing the firing squad in any forward war area.

The war now being won, this Continent is again diligently applying knowledge to business for the express purpose of more business, or to make 'it pay.' The last consideration is considered social amenity. Thus the proscription of usable knowledge reacts on man in exactly the same manner as

any other vice or anti-social operation. Social confusion and all its attendant pathology is the resulting disease rising to a social crisis. Experience doesn't seem to teach us very fast, either.

The *California Mining Journal* reported that: In 1933 President Roosevelt commissioned George Peek, the nation's leading foreign trade expert, to prepare a report of America's foreign trade between the years 1896 and 1934, a period of 38 years. With the \$50,000 furnished Mr. Peek he began his survey and one year later submitted it to Roosevelt. No one ever heard anything about it as Peek concluded his report with this statement: 'Our foreign trade for the 38 years between 1896 and 1934 did not bring us a profit, but brought us instead a loss of \$22 billion.'

Actually, the foreign trade indulged in by this Continent has for many years consisted largely of extending credit to foreign countries to enable them to purchase our natural resources (with our money). The sole objective was 'to make it pay' at home.

What of the physical implications? On this Continent alone during World War II we scattered beyond recovery all over the globe three billion tons of irreplaceable natural resources, coal, oil, iron, copper, nickel and other metals. These were far more precious than all the gold and paper we exchanged amongst ourselves in the act of 'making it pay.' Thus we jeopardized the birthright of unborn Americans by laying waste their America, which we hold in trust for them.

On the basis of what has taken place in the depletion of our natural resources during the last fifty years (to make it pay), what will take place if we become involved in another world war need not be left to the imagination. We have an histori-

cal precedent of the same situation elsewhere. Just read 'There'll Always Be An England.' If you believe you have a 'right' to 'make it pay,' this article should help you decide if you like what you believe in.

And so we continue to tolerate the use of the verb 'to pay' in a strictly anti-social sense as the criterion of personal success. This is what every man and woman in every walk of life cherishes as the essential concept requisite to welfare, success and happiness. To make 'it pay' within the law preferably, but outside the law if it pays sufficiently to warrant the risk involved, this has always been the primary condition in obtaining the amenities of life.

Don't Make It Too Good

What the effect of 'making it pay' has on other humans, directly or indirectly, is of little moment. This is free enterprise. Cupidity and sharp practice along with mendacity and deception evolved from the status of fine arts to that of lauded virtues. The theory of profit or making 'it pay' became predominant in school arithmetic. Keen judgment meant a high degree of perceiving the gullibility of one's victims. Competition necessitated advertising. This is jockeying for position to exercise the opportunity to make it pay bigger than your competitor's. This competition causes the quality of products to be lowered, but it pays.

Thus it pays most to deluge mankind with the greatest variety of substandard, shoddy, low-priced and quickly worn-out articles that it is possible to entice him to WANT. Conversely, it would not pay to insure the greatest number of people getting sufficient of the essential things they NEED; as a maximum quality diet, adequate shelter and

clothing. Needs supersede wants biologically; one must have life to enjoy the amenities of life.

The things we need are now well-known. They are measurable; they are abundant on this Continent. The only obstacle prohibiting their lavish distribution is the acceptance of the current definition of the term 'it would not pay.' People accept it BECAUSE they are ignorant of the effect technology has had in invalidating Price System definitions. The impact of technology necessitates the reconstruction of pre-conceived ideas upon a foundation of immediate, perceptible facts. When this is done, the verb 'to pay' will be found to have a double meaning. If it's paying you, it isn't paying society. If it is paying society, it will automatically pay you.

The original nylon stocking 'paid' society, but did not pay the manufacturer, so an anti-social change was made to effect that desired result. Society accepted the decree because society is familiar with the verb 'to pay' in its anti-social sense.

Does society need the most durable and substantial commodities it is possible to produce, or does it WANT the greatest number of shoddy and inferior articles it is possible to devise, merely because this procedure 'pays' free enterprise? Must society build up foreign trade in order to exchange things we need, or will need for things we 'want' but do not need, to make 'it pay' for free enterprise?

When the upholders of the status quo point out that using the verb 'to pay' in a pro-social sense would be fatal to the established order, they are saying in effect that scarcity is more important to them than abundance is to the people.

Abundance automatically negates the act of individually 'making it pay' by removing the necessity. Therefore,

we must insist that 'making it pay' is now anti-social in its entirety, for the need no longer exists.

Abundance Stymies Chiseling

The capacity to extort 'pay' or 'price,' legally or ethically, that is naturally accorded to scarcity, ceased to exist with the advent of abundance. Therefore, every advance of technology makes it more difficult 'to make it pay' within the rules, resulting in more attempts being made to do so outside the law. Our criterion of success being our ability to 'make it pay,' no distinction is made as to methods employed. Social prestige is equally attainable by any method. It follows that undetected social delinquency does 'pay' and will continue to do so until we install a new set of operating rules. It can safely be predicted that the finer human qualities latent in mankind will appear only in a social order warranting their exercise. These qualities are conspicuous by their absence now because of our unanimous struggle to exercise our chiseling rights to 'make it pay.' We actually insist on an obsolete method of acquiring the means whereby we live.

Cupidity and sharp practice have become so embedded in the human mind under the decent camouflage of thrift and self help as to be looked on as civic virtues of the first order. (Thorstein Veblen.)

Objective pro-social thinking must redefine the verb 'to pay' as vulgar and repulsive when employed in any anti-social sense. To the Technocrat 'to pay' is synonymous with 'to function,' and so we prefer to use that term. Only that which functions technologically 'pays.' A Continental Technate is the end product of applying the verb 'to pay' pro-socially. This is the peak resulting from the

vertical alignment of all the functional operations that go to make up a harmonious integrated society. It provides a mechanism to distribute the means of social amenity available to the Continent with a minimum of human effort. This is a design to 'make it pay' for all, by conservation and utilization. The effort would be insignificant compared to the effort we now put forth to 'make it pay' individually by the process of waste and duplication.

The contract of citizenship in a Technate guarantees a lifetime of security. It uses a medium to distribute what is available in the place of a medium to exchange for a price. This cannot fail to reflect better health, more relaxation, or leisure time, than has hitherto been enjoyed by the majority of the inhabitants of this Continent. These highly desirable amenities of life can then be marked up truthfully for the first time as clear profit. Our venture will then have paid society and the individual a thousand fold.

Make Our Country Right

In the event of our leaders involving this Continent in another major war, we are automatically involved too. It is our Our Country, Right or Wrong. It is also our duty to make sure of where we stand before it is too late. Investigate Technocracy's analysis of your situation in this matter. In any event you will disclose to yourself that the only possible 'reason' for becoming involved in another world war would be the fallacy that we MUST 'make it pay.'

There is only one best way to defend this Continent and its people. That is by joining Technocracy, learning 'what the score is' and applying this knowledge to 'make it pay' for all citizens, along technological lines.

Primer of Technocracy

What About Incentive?

By Henry Elsner, Jr., R.D. 8342

No Ifs, Buts or Perhapses

Of the many arguments raised against the program of a technologically administered society, perhaps the most common is the blunt statement: 'It won't work.' When pressed further, the individual making this statement will reply that 'human nature is agin' it.' 'Why, if everyone got the same income, no one would want to work to get ahead. There wouldn't be any incentive.' These objections on work and incentive are the result of Price System conditioning. However, because Technocracy's approach is a design of function, it is important that they be satisfactorily answered.

First, let us define 'incentive.' It is a driving force or spur to action. Man has another characteristic that is often mistaken for incentive. That is initiative. This looks like incentive but it is different. Initiative is the power of commencing or originating action. Thus, incentive is an external force. Initiative is internal. Most people can carry on under a strong incentive. Not so many operate on the basis of initiative.

Man is by nature an energetic creature. If this were not so, he would not occupy the position of dominance over the rest of the world's living beings. Man must continually be *doing* something to be satisfied. Every normal, healthy individual spends his time in some manner other than sitting with folded hands and a blank look on his face. Initiative and incentive alternately stir and prod him to activity.

Now, let's define work. Work is 'the application of force to a body causing it to move.' Thus, accurately

speaking, practically all activities are 'work' of one kind or another. But when work is discussed by 'the man on the street,' he is thinking of an entirely different concept. The difficulty he encounters when thinking about work in a society where working hours would be very short and incomes equal is his Price System concept of work.

We think of 'work' and 'leisure' as both meaning activity but activity of two very different types. 'Work' is regarded as something unpleasant, an obnoxious task that just *has* to be done, or as something tedious and boring but necessary. 'Leisure' on the other hand is thought of as the opposite condition of 'work.' It is a status much to be desired. These concepts originated in the by-gone era of human-labor, hand-tool production when the vast majority of people were forced to work at backbreaking tasks from dawn until dusk. Relief from toil, that is, leisure, was the privilege of a very select upper caste. The introduction of technological means of production has changed the entire scene until now the line of distinction between 'work' and 'leisure' is becoming quite thin.

In a technological society, the distinction between work and leisure would, for all practical purposes, cease to exist. Working hours would be so short, and conditions so agreeable, that the necessary 'work' to keep the needs of society supplied would be as pleasant as any form of 'leisure.' One's income would be independent of the type of work one would do. So, each individual would be free to choose the occupation in which he is most inter-

ested, and for which his individual talents would be the best suited. Under such conditions there can be no doubt but that the great majority of people would be only too willing to do their share of operating the Continent. Any one who, for any reason, refused to work would have his head examined by competent psychiatrists.

He Who Can Needs a Chance

'Well, I'll concede that everyone would work,' says our critic, 'but would they work as well as they do today? What incentive would there be for one to advance himself, or make new discoveries, invent new devices? Wouldn't the country soon stagnate?'

Why does anyone do a job well, today? Because he receives more pay for so doing? The monetary benefactions derived from doing a job better than the next fellow, or discovering something new do have some influence. There are many other incentives equally as great or greater. Also, there is initiative. Do we not often do something as well as we can, although we receive no more money than if we had done the job in a mediocre manner? How about the inventor who works years on an idea with little or no cash rewards? Is that incentive or initiative? Also, don't forget the thousands of professional people who are relatively poorly paid, but whose work requires much training and patience.

One of the chief reasons people do anything well is because of pride in their accomplishments. This is the reason we work so energetically at crafts and hobbies. Everyone likes to see a job well done. Everyone likes to do something better than the other fellow. Is all this incentive or initiative?

The same factors apply to the ad-

vancement of an individual to a more responsible, or more difficult, position. Some people are born leaders, or administrators, and some are not. With the stimulus of economic bribery (incentive) removed, only those with initiative, who are capable of performing difficult tasks, will attempt them. There has always been a certain amount of social prestige connected with the holding of a difficult or responsible position. In a Technate, this prestige will depend upon functional ability alone, not on display of monetary wealth. This does not mean, however, that certain positions will be 'looked down upon.' The idea of looking down upon some one or group has arisen from economic differentiation in incomes.

Technocracy does not pretend that the Technate will create a 'classless society.' Nor does it promise to eradicate all the eccentricities of human behaviour. Technocracy *does* point out how on the North American Continent a higher standard of living than we have ever known can be had for *all* of our citizens. As a result, most of the old economic stigmas will be removed. They will be replaced, not by apathy and inertia, but by a far more healthful and vigorous life all around.

The inherent initiative of so many people which is squelched under the Price System will be released. There will also be a strong incentive to stand well in the eyes of our fellow men. Thus initiative and incentive will both be permitted to function in a socially desirable way for the first time. You must admit this has the Price System beat by a mile. Why not join Technocracy and learn more about it?

There were 42,893 fires in Chicago in 1946.

Behind the Iron Curtain

Mine Eyes Have Seen The Story

By Stella Key, 8141-14

There are millions of Americans who cannot see through the iron curtain of camouflage and propaganda of the Price System. What is on this curtain, and in front of it, is the window dressing. This is the blah that is dished up by press, radio, politics and business. What goes on behind the curtain is the real thing. This consists of the physical operations of the system. These are the measure of our General Welfare, not the baloney that is peddled out in front. Let's lift one corner of this Price System curtain and watch the Parade Go By!

Let There Be Light

What is it behind the iron curtain that our most successful people are trying to keep hidden? It is a motley array of Price System puppets marching like Fabres' procession of caterpillars, endlessly around and round in circles of futility. 'There march the social misfits who have not been able to achieve the 'more abundant life.' Also behind the curtain march the perennially ill, who haven't the wherewithal to buy the services of doctors. There, too, march the victims of our obsolete system of transportation. It is estimated that over 40,000 people are killed yearly on our highways alone. Scan the columns of any daily newspaper of any big city and count the number of suicides, homicides, rapes, robberies, etc. These, too, march behind our Price System curtain as part of our 'Way of Life.'

Also marching behind this curtain are the mentally defective, the emotionally unstable. Their only 'out' from the frustrations of our economic system is complete escape from reality into a dream world of their own. There they can pretend that they are everything they wanted to be, but could not.

Also marching are the petty crooks, the small time chisellers. They are the subject of countless stories, morals and

crusading district attorneys. With them also march the social and economic outcasts of free America, the negro people. Four years of civil war freed them of their slave shackles, but did not solve their economic status.

Marching side by side with them are the beneficiaries of this System of disadvantage. Their numbers are few, but their influence is powerful. They march with pomp and ceremony. They dispense charity with grandiose gestures. Walking hand in hand with the princes and the paupers are the purveyors of philosophy. They have a special brand of gobbledy gok for every human ill, real or fanciful.

I Knew Him When

By far the greatest number of the marchers are the so-called middle class. They are the solid citizens, the 'salt of the earth.' They click their tongues disapprovingly at the antics of the elite, and secretly wish they had the means to do the same. They frown enormously upon their 'inferiors,' fearing that some upstart might tumble them from their perch of artificial virtue. This is a very worm-eaten structure at best.

Aiding and abetting the marchers to keep in step are the 'smart boys,' the lawyers, press agents, advertisers and politicians. They picture with flowing terms the wonderful things

that are to be had by adopting their slogans, by voting for them, by buying their products. Mrs. Housewife will forever more be free from social embarrassment by simply using the right soap. She will be able to move about her home in perpetual leisure with the same vapid expression on her face as that of the pictured model. Mr. Husband will be able to sell to St. Peter himself, only he must get rid of his bad breath by using the right laxative.

No need for you to use your own gray cells. Just have faith and buy. The same theme, with variations, is repeated on the radio, in the movies, and plastered on the billboards. The gaudy bauble of success awaits the holder of the lucky formula. The grapes of wrath await those who have not been able to be at the right place, at the right time, and born to the right parents. Like a long train trip, Price System success is a matter of making the correct connections. If you arrive, by chance, in that rarified atmosphere of success, you must forget any humble beginning you may have had and behave in the manner of those who arrived before you and set the pattern.

How the Parade Started

The warp and woof of this Parade of Price System puppets is composed of moral concepts and ideologies that had their beginning in what is now the crumbled ruins of ancient Rome. Our system of elected representatives and our Senators are the reminders of the long dead Roman senators. The average Roman citizen was also impressed by size and waste. Here, as it was in Rome, it is a mark of distinction to be able to waste conspicuously. The old Roman economy was based upon a complicated system of human slavery. The 'free man' voted and par-

ticipated in the spoils of war. The slaves supplied the power of production of the goods and services of that time.

This structure collapsed, and in its place rose the feudal system of the Middle Ages. In order to achieve the same ends as the old Roman aristocracy, new methods had to be devised to keep the serfs working. So work was described as ennobling. Only a small minority at the top were possessed of the ability to become noble without degrading the body by physical exertion. They were able to indulge in the pursuit of the finer things of life.

There came a time when this structure of feudal slavery, too, began to crumble from dry rot within and the march of events from without.

Johann Gutenberg, in 1438, invented a mechanism that was a great stride forward, beyond the laborious method of handwriting and copying. Lo and behold, what happened? Some heretical printers dared to print brochures, books and papers that were inimical to the teachings of the self-styled saviours of the people. So the thunder was called down upon the heads of the heretics. The damage was done, however. The means of disseminating information and ideas to a great number of people was established. The Reformation of the Middle Ages was set in motion, the Council of Trent notwithstanding.

During this Golden Age of the Price System, several things happened that were to change the course of history. Christopher Columbus discovered America in 1492. England set up her own variety of imperialism, and began to bulge with small tradesmen. Commerce flourished. Colonization began. In time America became a convenient catch-all for the surplus malcontents, petty thieves and criminals. Goods and services were still produced

by human toil and hand tools. The standard of living for the great majority was extremely low. The plagues which struck Europe from time to time and the high death rate attest to that. The average span of life was 30 years. No sanitation of any kind was practiced. People in high places took to shaving their heads and wore wigs instead of their own hair. Wealth and blue blood did not buy immunity from lice.

In 1776, two events took place which were destined to change the course of the paraders behind the Price System curtain. The first practical application of extraneous energy to production was made by James Watt's single acting steam engine. In the same year, the thirteen colonies on this Continent declared their independence from England. The stage was now all set for the grand finale.

Sold Down The River of Commerce

At that time the North American Continent was endowed with the greatest combination of natural resources on earth. Coal, oil, iron ore, copper, zinc, aluminum, virgin forests, all were abundant. Climate ranged from the warm tropical regions of Central America to the temperate climate of the United States and Canada. The soil was rich in plant food for the growing of a wide range of crops.

The colonial American had no conception of this enormous physical wealth. He carefully transplanted his European mental concepts, nurtured them, and framed a Constitution to protect them. Then the effect of Eli Whitney's cotton gin (1793) caught up with the agrarian feudalism of the south. Chattel slavery became a deficit economy. The question of agrarianism or industrialism as a national policy was settled by four years of bloodshed—the Civil War.

There then arose a new aristocracy to head the Parade based on exploitation and waste of natural resources. Its motto is 'first come, first served, and the devil take the hindmost.' The native inhabitants of the Continent, the North American Indians, were killed or herded onto reservations. The great trek to the gold fields of California was on. Fertile land in the middle west was to be had for the taking. The enormous deposits of iron ore of the Mesaba Range have almost been depleted within the short sixty years of their discovery. Great pools of oil have gone the way of the iron ore. Five-sixths of our forests are gone. The treeless plains of the middle west were plowed up and 150,000,000 acres of land are now utterly desolate. The same story can be told of nearly every other resource.

The End Draws Near

In spite of this national policy for immediate personal gain, the advance of science has built an array of technological equipment that is tearing down the Price System curtain. It is exposing the sophistry that, regardless of race, creed or color, people can live in harmony in an economy of scarcity. Yes, people do live, but it has always been in mutual fear and common insecurity. This is the tyranny and regimentation of the Price System.

Technology has been the nemesis of every negative mental concept with which the beneficiaries of the Price System have tried to patch the curtain. The latest attempt was the Four Freedoms, for which World War II is supposed to have been fought; freedom from fear, and want, and freedom of speech and religion. Let's look at those elusive freedoms.

Our installed technology, if operated to its full capacity, can produce an abundance of goods and services which would guarantee security for

every man, woman, and child on this Continent from birth to death. When you have freedom from want, you will automatically have freedom from fear on economic grounds. You won't have to buy yourself into debt to keep up with the Jones. You will be free from fear that ill-health will impoverish your family. Your health will be a concern of the National Health Sequence.

As for freedom of speech, you will be able to exercise that to a greater extent than ever before. Now you don't dare tell your friends what you really think of them for trying to chisel on you, because you hope there will come a time when you might get a chance to chisel on them. As far as the public exercise of free speech is concerned, you will have more leisure time in which to practice it. The Technate will furnish the hall and/or the soap box. But you'll have to furnish the audience, and that without a price.

As for freedom of religion, that is something to be decided by each individual for himself. When the price tag has been removed from our churches, religion will be free for the first time in history. One may attend any church of his choice, seven days a week instead of the usual one, if he desires.

If any one doubts that our technology can produce an abundance of goods and services, let him cast his mind back to the last war. North America was the arsenal of the whole world. We poured out goods of destruction like grist out of a mill. We can do the same in peacetime for construction, but we must take off the brakes of outmoded institutions. We must scrap the Price System and install technological social controls.

We have reached the pay-off point. Which will it be, the private enterprise of the nineteenth century, with nowhere to go but complete prostitution of natural progression? Or, will it be a functional society based on engineering methods? We have reached that latter point in our progression. The next step is straight into the New America of Abundance, with security and equal opportunity for all. The blueprints are ready, ladies and gentlemen. The best part of it is they won't kid you either, or try to sell you insurance, or anything else you don't want.

Technocracy isn't kidding either. It has the blueprints of a scientific social system. Don't believe this. Investigate for yourself. Join Technocracy and check up on the facts!

All In Favor Say I

Twenty miles south of Chicago's Loop in the green acres adjoining Oak Forest Infirmary is Potter's Field. On August 29, last year, 150 unknown and unidentified babies were buried there, in a trench. 'Every three weeks we bury about 30 adults and 100 babies,' said J. C. Rush-ton of the administrative office of Potter's Field. (*Chicago Daily News*, August 30, 1946.)

'If the underprivileged children had an alumni association, I could be their president. But I wouldn't because there is no such thing as being underprivileged if you have the privilege of being an American citizen.'—Robert R. Wason, President of the National Association of Manufacturers for 1946. (As quoted in the *Kansas City Kansan*, December 1, 1945.)

Ed. Note: All in favor of this glorious free enterprise social system say 'I.'

Dictionary of the Price System

A Word A Day Keeps The Fog Away

By J. C. Stafford, 8439-1 and Others

FREE PRESS—An advertising medium in which the spaces between the ads are freely used to conceal the facts.

NEW DEAL—The political policy that saved business from frying in its own pan. Now that business is out of the frying pan it is jumping straight into the fire.

INDUSTRY—The process of producing physical wealth.

BUSINESS—The process of keeping us from getting enough of it.

PRICE CONTROL—Rules made by the Government for the orderly conduct of a free-for-all fight in the market place.

PROFIT—The net 'take' from any racket after all the suckers have been 'taken.'

FAIR PROFIT—All you can get.

FAIR WAGES—The least that will be accepted short of a strike.

CONFIDENCE—The smokescreen behind which Free Enterprise operates.

VALUE—The quotient of scarcity divided by need.

PRICE—Expression of the above equation in money.

FACT FINDING—A process whereby a committee searches for facts everywhere but where they are. Witness the conspiracy of silence regarding Technocracy.

SPHERE OF INFLUENCE—The areas contiguous to any nation that are within the fire range of its available weapons.

ATOM BOMB—An instrument of obliteration conceived in prayer and humiliation and used to promote the Four Freedoms.

ARBITRATION—A delicious procedure wherein two business men and one worker decide how much labor gets. One of the business men is always called a Representative of the Public.

GEORGEITIS—A typical American disease symptomatized by the crack: 'Let George Do It.'

DESERVING APPLICANT—A banker's term, designating a man who keeps his financial affairs in such a shape that he can tell the banker to go to hell. (Simplified Economics, April, 1945.)

PREJUDICE—A vagrant opinion without visible means of support (Ambrose Bierce).

EDUCATION—That which remains after one has debunked everything he learned in school. (American Freeman, March, 1947.)

ENGINEERING: The art of organizing and directing men and of controlling forces and materials of nature for the benefit of the human race. (From a mural in the Engineering Society's Library in New York City.)

'Our merchants and master-manufacturers complain much of the bad effects of high wages in raising the prices, and thereby lessening the sale of their goods both at home and abroad. They say nothing

concerning the bad effects of high profits. They are silent with regard to the pernicious effects of their own gains.' (Adam Smith, 1723-1790, in his book *The Wealth of Nations*.)

Oldest Racket of Them All

Taxes—They Support What?

By A. E. Borel, MAL

(Part 2)

There are supposed to be only two things on earth that are absolutely certain, death and taxes. This article undertakes to blast the last half of that fable into the limbo where it belongs. Before the end is reached, you will agree that the author has given a brand new slant on taxes.

In the first part he traced the beginning of taxation. He showed the original purpose of taxes and how the Price System subverted that purpose to its own ends. At first taxation was a voluntary social donation in the collective interest. The Price System turned it into a compulsory contribution and a 'burdensome duty.' It put the jingle into taxation and made it profitable. Julius Caesar is reported to have said that collecting taxes was the chief business of conquerors. So, you see this racket has been going on for a long time.

The article continues its dissection in this part. Particular attention is given to 'Free Enterprise' and its major role as an anti-social beneficiary of taxation. When you get through with this article, you will know just what your taxes support.

Jack: 'Well, Bill, the time has come when the form of true taxation must no longer be laid on the shoulders of the individual parents, or any individual who is the responsible head of a family group. To show the direction in which social thinking is being driven by the trend of events, even under the Price System, just listen to this. It is part of an editorial that appeared in the Grants Pass, Oregon, *Daily Courier*, September 26, 1946.

Often times it would appear that the community was "over-taxed" as solicitation is made "for this and for that." No sooner is a drive for funds to combat infantile paralysis concluded than a drive is started for the Red Cross, then the Community Chest, and so throughout the year; and then there arrives a new year and we start all over again. . . . For after all, part of our life is dedicated to the helping of others . . . Perhaps the reason we are dedi-

cated to share our life with the rest of humanity—is that we know not when the same affliction might be visited upon us. There is no substitution for preparedness regardless of the station in life or the direction traveled.

You will certainly be able to connect up that with what I have been telling you. The editorial calls this constant giving 'taxation.' You will note that it uses the word 'overtaxed.' It seems that we have advanced our conceptions that far at least. However, this is only a bare start. *This burden must be resumed by society as a whole.* That is the kind of taxation embodied in the design of Technocracy. There, in carrying out this design, is the tax even the Technocrat must pay.'

Bill: 'Yes, Jack, but how will he pay it?'

Jack: 'To answer this, Bill, I must show you to what uses taxes have been put. All taxes collected are paid

out again in some form. For what purposes are they paid out? I will line it up this way.

'First, taxes are paid to support people who constitute "*The Government*," the term in this sense being used to designate all "elected" personnel, persons who "assume" or are appointed to the role of Authority.

'Second, taxes are paid to support people who are the "employees" of the Government; the term in this sense being used to designate the personnel in the Government whose position is that of holding a "job" just like any one else would hold a "job."

'Third—taxes are paid to distribute funds to support people outside the above two classifications in line with programs established by the above first and second classifications.

'Mind you, all money is paid to support people. No money is paid for any other purpose. You may speak of spending money to build a dam. All you are doing is to pay out money to support the people who are building the dam or others connected with the project in one way or another. All money is paid to support people who receive pay for selling their claim to ownership of something, or who receive pay for energy expended, either mental or physical. That is what is done with the money paid out by Government.

'The first two classifications are clear enough. The one thing that is not clear is the great number of people actually supported in these divisions. Under "elected" personnel there is a great duplication of activities; in the work of the "employees" is greater duplication. Also, under the latter are many of the departments and bureaus

whose programs are specifically designed as aids to the favored few, or groups of minorities. As an example of the third classification, we have the disbursement of taxes as interest to persons holding the bonds of the Government. Does all this make sense, Bill?

Bill: 'Well, I think it does, Jack. Are you sure those three classifications cover everything?'

Jack: 'I think they do, Bill. You must be sure to note that I stressed "support." It must be stressed. *People's tax money goes to support other people! That is the whole purpose of taxes. When you once get that clear in your mind, you will then get it clear why there is no collection of tax money in a Technate.*

'Now, in this third classification, just who are these other people who are being "supported" at Government expense? Here is a list I made up.

'1. Bondholders . . . Most Government bonds are held by banks, insurance companies and corporations. During the war bond drives \$5,000,000,000 worth of bonds would be allotted to the public for purchase during a drive and \$10,000,000,000 allotted to the above-named groups. It was very noticeable that the amounts allowed to the corporations group were always quickly over-subscribed, while the amounts allotted to the public were bought more slowly. From this you may estimate who will receive the greatest interest from the bonds.

'2. Crime, criminals and convicts. Our bill to combat crime, incarcerate criminals and support convicts is mounting so rapidly it is alarming the nation. Yet there is scarcely room to hold the convicted criminals, to say nothing of those who are on the loose. These peo-

ple are not primarily to blame. They are the product of our civilization! But—our tax money goes out to support them.

'3. Insane. Our institutions to take care of the insane are inadequate, yet the number of victims of this malady is growing continually larger. Again, these are the products of our civilization. We pay this bill by denying ourselves something.

'4. Free Private Enterprise. The bill to support free private enterprise will never be figured. "Free enterprise is so costly to the General Welfare that its bill is beyond computation." Farmers are free enterprisers. They are a minority group. In the 1930's Depression, the mass of the people were taxed to pay farmers for the destruction of their food products and other products of the farm, and the non-planting of their acres so that higher prices would have to be paid for what finally reached the market. Why? Simply to create the necessary scarcity which was required to maintain the price. It was necessary to maintain prices under the plea that the income of the farmers had to be maintained or raised. The income of the farmers had to be raised to maintain the *illusion* that they were living under a Free Private Enterprise System, which in reality was supported by taxpayers' money! Right now it is subsidies all down the line. Who pays the subsidies? The taxpayers, of course! So charge this against free enterprise.

'At the same time that people were being taxed to support farmers in a state of non-production, they were being taxed to furnish a subsistence living income for other millions of people who had no income at all! Remember WPA, PWA,

CCC and so on? Could that happen again? This has to be charged on the bill against free enterprise. 'Just to show you how far we went in the direction of helping people, the national debt at the beginning of the 1930's depression stood at around \$9,000,000,000. At the beginning of the spending spree to put us into World War 2, it was \$45,000,000,000. This is a difference of \$36,000,000,000. In other words, in the period between these two limits, we, a people sitting in a land "flowing with milk and honey" such as had never existed upon the face of the earth, a condition portrayed by the prophets of old as the acme of existence, we permitted ourselves to be talked into taxing ourselves all we could possibly pay and, in addition, went into debt to the tune of \$36,000,000,000 in an asinine effort to keep ourselves from having things. We destroyed the natural resources to which we had fallen heir; we destroyed the heritage of abundance which, through science and technology, have been built up. We abrogated the laws of nature in creating such a man-made poverty and scarcity that we could not afford to have babies; we lost the sense to look out for our own self-preservation.

'Why did we commit this heinous crime? Can anyone really tell us why it was done, without scorning the instigators! Can they try to explain, without stumbling over the words! Can they defend, and not have their faces turn red at such idiocy!

'When the story of the people of this generation is told at the judgment bar of history, it will be found that there is no social ruling group, all down the long corridors of time, whose head is worthy to hang

lower in shame, or upon whom shall be heaped more contumescence, than the Free Enterprisers of Free America. We have had, in our time and in our hands, the gifts of the ages, the fruits of science and technology; we have cast them from us for the gaudy baubles of "Price System" and "free enterprise." To whom much is given, much shall be required; and to whom men have committed much, of him will they ask the more! Who can count the debt we shall be required to pay! Can the Price System hope to escape?"

Bill: 'Jack, I'm dumbfounded. I really never looked at it like that before. All I can say is, we did it in our ignorance.'

Jack: 'Bill, that is not all of it. We have waged two World Wars in one generation. The mass of the people were taxed to pay high wages to minority groups of war workers and high profits to owners of property who were producing nothing of lasting value. At the same time, in World War 2, at least 65 percent or more of the population was receiving \$2500 a year or less. This was a total war. We were fighting for our life. We should have had Total Conscription all the time, the Total Conscription advocated by Technocracy. Shouldn't we charge this on the bill against free enterprise?'

Bill: 'That's right, Jack. I did talk Total Conscription to a lot of people and never found one against it. It's funny; everyone always approved. Yet it looks like nobody did anything about it. I suppose they figured, like everybody else, "what's the use."'

Jack: 'To continue, Bill, there are, also, loans and help to foreign nations. Need I discuss these? Even

supposing that the recent loans should be paid in time, would that wipe the slate clean? Would that repay the taxpayers for all the taxes they had paid in the interim? Might we not call these "a burdensome duty"? Yes, when one considers that we have to support people in other nations with these loans in order to create purchasing power there so that they can buy our stuff and thereby create jobs and purchasing power here! We'll have to put them on the bill for free enterprise.'

Bill: 'I know, Jack, but I am sure that they are doing that to help those poor people out of a jam.'

Jack: 'Far be it from me to be an iconoclast, Bill. I know that all of us common people are very much in sympathy with the peoples of these other nations. Might not somebody be taking advantage of this sympathy! I can accuse no one. I must confess to a great deal of skepticism as to the motives professed, especially when we are told that the purpose of these loans is to build up our foreign trade.'

Bill: 'Do they, Jack?'

Jack: 'Most assuredly, Bill. Want me to quote? Here's one. *Business Week*, April 4, 1946, page 21. It is a lengthy article entitled "Trade Stimulants." Under the heading "Foreign Developments" is described the duties of the Office of Foreign Economic Development. It says, and I quote:

Its job, broadly, will be to help foreign nations draft development schemes—in an effort to provide immediate markets for American capital goods and, by raising living standards (I'm underscoring that, Bill) to create wider markets for other U.S. manufactures and raw materials."

It's merely another case of taxing ourselves to make jobs for ourselves. We can't raise the purchasing power any other way!

'Oh, I know that all this has high sounding phrases that it is all in the interest of the common man, that it is being done to help him get "jobs." But we know we have a much better design for furnishing "jobs" under Technocracy's plan for abundance without loaning our money to other people so we can give our stuff away to make "jobs" for ourselves.

'I know very well that a great deal of sympathy is being worked up for the people of other nations and we are being made to feel that if we utter just one squeak against the program we're anti-social and not fit to mingle with decent people.

'People think we Technocrats have no sympathy for other nations, that we are just looking to fill our own bellies. Everybody knows the mess we are in. After all, the common people aren't dumb. Now, if we can see it, so can the big shots see it. And they know that we can see it. So they try to distract our attention from conditions here at home by telling us how much worse off other people are. And, we must be Good Samaritans and give away everything we've got. That will be casting bread upon the waters which will return to us some day as big, fat, juicy contracts. These will then give us poor workers lots of work and big (?), fat (?) paychecks. If people could only realize that giving, and I do mean giving, our stuff isn't helping other nations so very appreciably and is only helping wreck our own economy faster, they would see that the proper solution to the problem is to save ourselves. Then,

truly, we would be in a position to help where help is needed.

'If the press, instead of ranting all the time against reds and fascists, would take the trouble to study Technocracy as the only social program which fits in with the intellectual and scientific age in which we live, they could soon point the way toward eliminating the factors which make reds and fascists alike. So we must put this on the bill against free enterprise.

'We also expect to have tourists over there. You bet. In the words of this article, these tourists "can be expected to spend \$1,000,000,-000 a year abroad, adding this sum to the earnings of foreign countries which can be spent on American products. Good old American dollars! What a gift to the world! But what guarantee have we that they will be so spent. Already we hear rumors that this is not happening.

'So, now you see where your tax dollar goes. I have not covered it all. If I were to quote you more on this trade business, you would soon get an inkling of the why of wars. But you can read it for yourself in the newspaper.'

Bill: 'You've got quite an array of facts, there, Jack, old boy. What next?'

(Concluded in the next issue)

Black Gold

'Investigations indicate a definite relationship between the amount of sootfall in smoky cities and the amount of pneumonia in the areas concerned. The highest pneumonia death rates are in the area where there is the heaviest sootfall. (Morris Fishbein, M.D. in his column in the *Chicago Times*, January 4, 1947.)

From the Camera's Eyevue

The Iron Rule of Scarcity

'All Around The Mulberry Bush'

Every free enterpriser is agreed upon one basic rule. This is that scarcity must be maintained. This rule, however, is never stated in such harsh language. Instead, it is called by a softer sounding term, namely, the 'law of supply and demand.' It is said that this is a 'natural law' of checks and counterchecks that determines prices and governs and balances the whole process of production and consumption. When supply is greater than demand, prices fall. When demand is greater than supply, prices rise. Therefore, high prices decrease demand, thus automatically increasing the supply. This, then, drives prices back down and everybody's happy. Without going into any economic gobbledy gok, it can readily be seen that this 'natural law' is full of loopholes.

One might ask, if high prices are their own corrective, how they get too high in the first place? Also, if supply and demand balance each other, how can they get out of balance? The classic answer is that economic unbalance occurs because this 'natural law' has been violated. To violate a law means to break it. Here is where the whole fraud collapses. There are no special 'natural laws' apart from physical laws and these cannot be violated. The second postulate of science states that Nature is Uniform. Physical laws operate willy-nilly. Man-made laws can be broken but try to break the laws of gravity or thermodynamics, and see what happens. They just keep rolling along. Upon analysis, this 'natural law' turns out to be a smokescreen to hide the dictum of scarcity. The basic compulsion for scarcity is the iron rule by which the Price System must live or die. Here's why.

Price is the money equivalent of value. Value is the sum of human desire acting upon the relative scarcity of products. In order to maintain values and carry on trade and commerce, there must never be an abundance available to consumers. It destroys value and price. Today, technology has advanced to where the production and distribution of abundance for all is possible. So, the major problem before the Price System is how to avert this calamity. Hence, scarcity must be arbitrarily enforced. This job gets ever more difficult as the impact of technology mounts. The following pictures show some 'horrible' examples of the type of technology that is threatening to abolish arbitrarily enforced scarcity. (Continued on page 32)



Photo: National Dairy Products Corporation

'When the harvest is over and we are in clover—' North America is ready for the harvest of Technology. The only interference is Price. We all need an Abundance of dairy products. The only interference is Price. Technology decrees Abundance. Price dictates arbitrary scarcity. Price controls Technology. The iron law says that the Price System must use Technology but avoid Abundance.



Photo: Soil Conservation Service

For instance, the application of agrotechnology like this is very bad for arbitrary scarcity. Reason? It conserves America's No. 1 resource, the land. Secretary Anderson stated on December 4, 1946: 'Farm technology is traveling on a one-way road that never turns back.' That's bad news for scarcity, values, and Price. The job of suppressing Abundance grows ever more difficult.



Photo: Soil Conservation Service

Here, however, the Price System is true to its ancient colors. Good old 'free enterprise' 'mines the soil.' This is a time-proven way to enforce and increase arbitrary scarcity to the point where it becomes natural scarcity again. 'Free Enterprise' is making good headway in that direction now. The SCS says that 'soil mining costs the U. S. over 500,000 acres of farmland every year.'



Photo: United Air Lines

This Sikorsky helicopter threatens to provide an abundance of safe, fast, suburban travel and mail delivery. Its useful load is 1250 lbs.; range 240 miles; ceiling 13,000'; speed 85 mph; landing space needed only 75' x 100'; can refuel at a roadside gas station. If the Price System doesn't put a stop to this treason pretty soon, it will be too late. Scarcity means what Scarcity does.



Photo: Public Roads Administration and Business Week

See what we mean? No danger of Abundance here. The time is 1913, when Technology was young. The number of Rural free routes was about 42,000 and the length of routes about 1,000,000 miles. By 1944 the number of routes had dropped to 32,000 but the mileage had risen to 1,500,000. It wasn't done with horses, Brother. It was that damn Technology. Something must be done, but what?

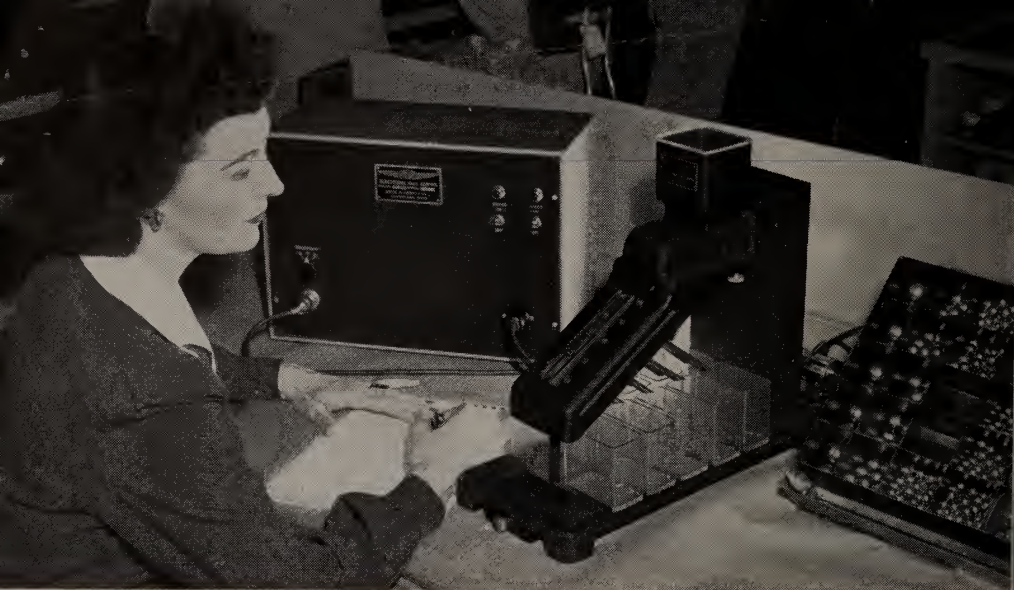


Photo: Jack and Heintz Inc.

Even the ladies are at it now. Here, Margo Black, a J&H Associate, operates an electronic ball bearing sorter that automatically sorts the balls into 10 groups graded to an accuracy of ten millionths of an inch, at 8 times the speed of standard equipment. Technology now goes in for mass precision. If the engineers get away with that, the sky will be the limit. Damn! What's next?



Photo: Towmotor Corporation

What is to become of the 'nobility of toil' if this keeps up? This lift truck is carrying 2400 lbs. of sugar from the hold of a lighter to warehouse space 200 feet away in 3 minutes. Handling costs are cut 50%; usable warehouse space increased 25%, due to higher stacking. Unit loads, carries, and stacks all bulky materials at 'amazing savings in time, money and manpower.' This is going too far.



Photo: Recordak Corporation

Technology moves into office, laboratory, library, school, working against disorganization. Micro-filming protects records from loss by fire, flood, tampering and misfiling. Here are 3,000 letters on a 100' roll of 16mm film. With this increased ability to organize and store knowledge, it will be still harder to stave off Abundance. Bet they'd like to shoot the guys who started this.



Photo: Sharples Chemicals Inc.

Here's one of them. The lightning rod was invented by Benjamin Franklin in 1752. Without a doubt it has saved a lot of barns from being burned down by lightning. That's a lot of hay saved, that's fed a lot of horses, who've done a lot of farm work, to produce a lot of food, to raise a lot of inventors to think up more ways to lick scarcity. Just goes to show how Technology works.

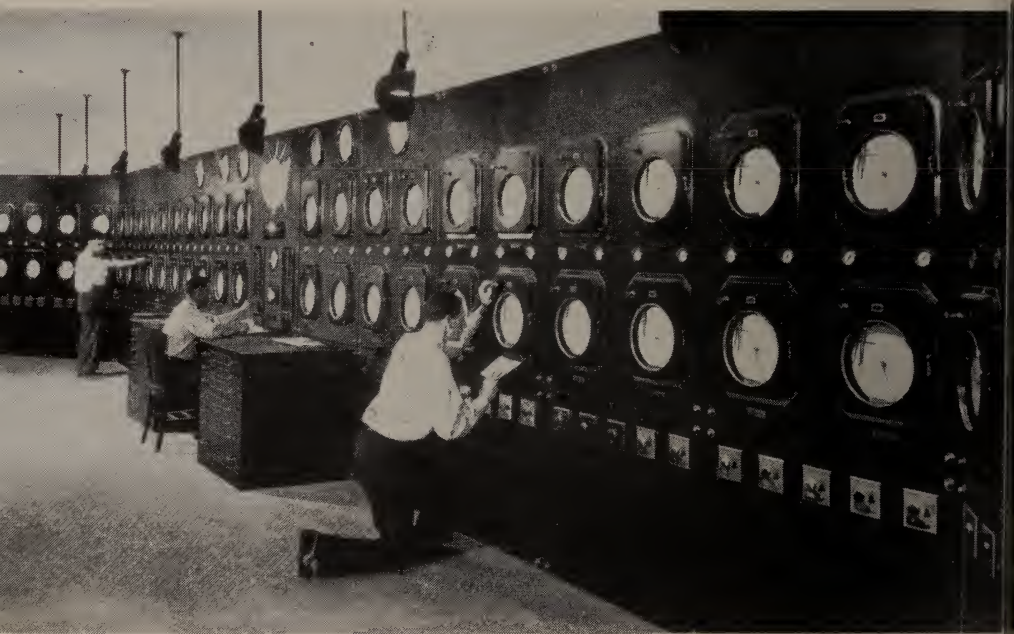


Photo: Taylor Instrument Companies

The power in lightning has now been harnessed to produce perpetual Summer, via air conditioning. Here's the huge Radio City Control Panel that's kept temperatures in studios and offices to within a half a degree for eleven years. Air Conditioning is practical for every home. However, the system permits it only for a Price and then can't furnish the price. Technology needs no Price.



Photo: Westinghouse Electric Corporation

Technology ranges from fine precision control to massive power such as this, which also is under fine control. This giant walking dragline symbolizes a certified promise that no job in North America is too big or too little. Technology operates by physical laws. The Price System operates on Promises to Pay. It has never paid off in the General Welfare yet. It must maintain scarcity.

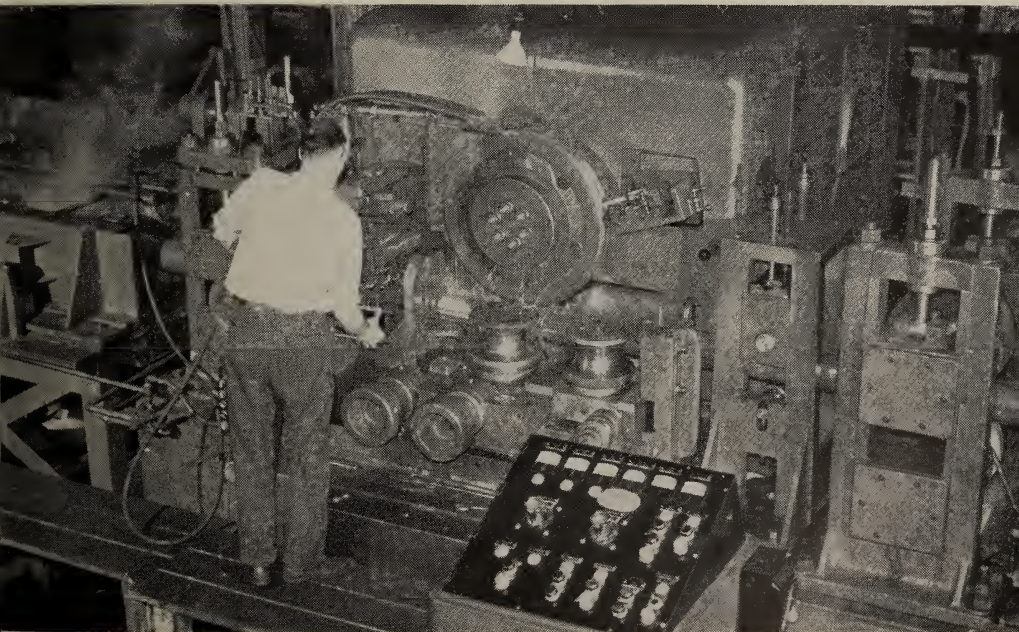


Photo: The Yoder Company

This cold forming, resistance-weld pipe mill produces over NINE miles of 6" pipe in a ten-hour shift. How's that for Abundance? It's no pipe dream that Technology can solve almost all of our social problems today. Or, maybe you'd rather go back to the 'glorious 13th Century' when people threw their slops out the window. There was Abundance in disease and ignorance then. That was fascism.

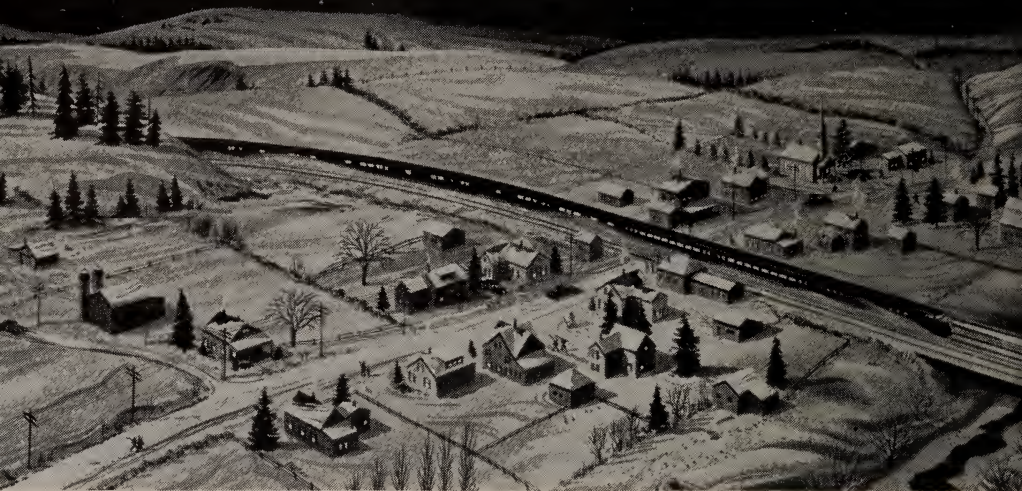


Photo: The Pullman Company

This is the Age of Power. In city, town and village from sea to shining sea, Technology operates our whole economy. All North Americans want more and better goods and services. There is only one way to get them, that is, abandon the Price System and set up technological social controls. Widespread recognition of this fact means the end of arbitrary scarcity, the beginning of Abundance.

(Continued from Page 25)

Control the Supply, Suppress the Demand

It may be objected that the 'law of supply and demand' certainly applies to independent, non-monopolistic enterprises. Well, maybe, perhaps, it and but. However, no free enterpriser with enough brains to sit on the right part of his anatomy will buck the market. Monopoly rules the roost, today, in North America. It manipulates the market, enforces scarcity and exchanges only what is profitable to exchange. Any little free enterpriser who dares to buck the big boys of business will be lucky to wind up with a clean shirt left. If, perchance, he should be clever enough to chisel out a good spot for his racket, he will shortly cease to be an independent. He gets absorbed into the circle of the blessed minority by a process of industrial, political and social osmosis. 'If you can't lick 'em, join 'em.'

Even during the 7,000 years of handicraft-agrarian economy based upon human toil and hand tools, the 'law of supply and demand' contained only a thimbleful of validity. Before the age of Technology only a limited amount of goods could be produced. The ability to supply was necessarily geared down to the power output of human bodies. There was almost no outside energy used and no mechanization. Consequently, effective demand was naturally suppressed. There simply was not enough to go around. People sweated out their lives in perpetual want. This was a condition of natural scarcity wherein both supply and demand were limited by a lack of technology.

Today, in North America, the picture is different. Yet, it is also much the same. The present stage of technological development makes the production of Abundance possible. Yet we observe that both supply and demand, that for so long were arbitrarily suppressed by natural conditions, are now arbitrarily suppressed by the iron rule of scarcity. Modern technology and not 'free enterprise' made the present capacity to produce possible. 'Free enterprise,' in one guise or other, has been on the social scene ever since the first medicine man charged a fee for driving away the devils. It never produced anything except a technique for exploiting that which was produced and those who produced it. For 7,000 years it has demonstrated its inability to advance the General Welfare.

Technology arose out of science. It operates by physical laws. In a few generations it has developed a technique of production unknown before, and demonstrated its ability to advance the General Welfare. Its impact is destroying the Price System by threatening scarcity and undermining values. This demands that we must translate the myth of 'supply and demand' into a living slogan. We must demand and supply a higher form of civilization, here and now. This Continent has the trained men, the machines, the resources and the operational know-how as its supply. It also has the needs of 200,000,000 people as its demand. The rest is an engineering job. Let's supply the demand and demand the supply. Down with arbitrary scarcity! Abundance, Security and Equal Opportunity for All

California, Here They Come

How Fat Maggots Get Fatter

By The Peripatetic Technocrat

'The Federal Government accepted the responsibility for improving the waterways for navigation purposes more than a hundred years ago. At the beginning of this century, the Government undertook the reclamation of public lands through irrigation and more recently the duty of controlling power development on streams subject to Federal jurisdiction and of providing protection against floods. Measures to accomplish these purposes in general have been taken separately and have been directed primarily toward a single end.

'Full utilization of our water resources requires that water be related to other resources; that in any program for water development and control, all of the potential uses be given careful consideration; that individual projects be weighed in relation to other projects in the same drainage basin and to conditions in other basins as well; and that each individual project provide initially or ultimately—for as many uses as are feasible.'

—National Resources Planning Board, January 1941.

'Above the Fruited Plain'

RINGED by the Sierra Nevadas on the East, the Coast Range on the West, the Klamath Mountains on the North and the Tehachapis on the South, stretches California's great Central Valley. It is around 500 miles wide and contains about 6,000,000 acres of semi-arid but fertile land. The Sacramento River drains the valley from the north and the San Joaquin from the south. The two rivers unite at Suisun and empty into San Francisco Bay. The northern part of Central Valley has about one-third of the land and two-thirds of the water.

About half of the irrigable land in Central Valley is under irrigation, largely from underground water. In 1944 Federal reclamation projects supplied water to only 190,000 acres in the valley. The balance got it from flowing and pumped wells. In 1940 the Valley had 47 flowing wells with a capacity of 3,403 gallons per minute. But there were, in the same year, over 32,000 pumped wells with a per minute capacity of over 20,000,-

000 gallons. This is more than 40 percent of all the pumped wells, the pumping capacity and yield in the 17 Western States. Thereby hangs the first point of our story.

Over three-quarters of the farms in Central Valley are 160 acres and less in size but most of the productive acreage is accounted for by large farms. One company, alone, owns over 400,000 acres in California. In Kern County, in the southern section of the Valley, and the two counties to its north there are 14 landowners who hold more than 6,000 acres apiece. Among these are the Di Giorgio Farms of 10,000 acres, near Arvin, with another 5,000 acres 60 miles to the north. Hereby hangs the second point of our story.

In the Central Valley water is more important than land. Without it the land is a desert. From the days of the earliest settlers, water has been drawn from the Sacramento and San Joaquin for irrigation. However, these rivers carry most of their water from the mountains to the ocean between March and June. Thus, during the

major part of the growing season the supply is inadequate. Successful crop production requires about 25 inches of rainfall, or irrigation water, well distributed throughout the growing season. The average annual precipitation in the Central Valley is between 10 and 20 inches, and most of it comes outside the growing season.

Enter Free Enterprise

This combination of circumstances led to the practice of pumping water from the underground reserves for the purpose of irrigation. As the pumping increased, the underground water level dropped lower. The water table under the Di Giorgio farms has been pushed down at the rate of 15 feet a year for a total of 150 feet in the last 10 years.

Speaking of the Central Valley, Assistant Commissioner William E. Warne, of the Bureau of Reclamation, stated before the Senate Committee on Commerce, May 8, 1944: 'Their present water supply is inadequate because of the recession of the water table through constant overpumping.'

The total annual rainfall in that area is around only 15 inches a year. At least one-third of this drains off into the ocean. A large part of the balance is absorbed directly by the surface soil and subsequently evaporated and transpired from plants back into the air. This leaves very little to percolate down into the underground reservoir. The only source of its replenishment is from the precipitation of rain and snow, plus some seepage from stream beds. Once gone, the ground water will be gone for a long, long time.

Robbing what amounts to an almost irreplaceable public resource for the purpose of private profit is a pro-fascist activity in any language. However, the big and little free enter-

prisers of the Central Valley don't let a little thing like that worry them. They are pushing on to bigger and better victories against the General Welfare. Now that their wells are getting so deep that the cost of pumping is becoming too high, they have organized to find a remedy. Naturally, this will be at the expense of the people, the sucker public. Their solution to their problem at the expense of physical America is typical Price System. If they get away with it, North America will be a long step nearer to that consolidation of the minor rackets into major monopolies that constitutes Fascism.

'Let There Be Light'

For many years, people of the Central Valley have been advocating a development plan that would 'harness and integrate the energy, water and land resources of the Area.' 'The answer to that need is the Bureau of Reclamation's giant Central Valley Project. This is what is called a multiple-purpose project. It includes within the program 'all the elements based on water that are needed for stabilizing the economy of a region.' These are listed as follows:

1. Adequate water supply for irrigation;
2. Improvement of water navigation;
3. Flood controls;
4. Production of low-cost power;
5. Adequate fresh water supply for domestic and industrial use;
6. Controlling the fluctuating flow of rivers; and
7. Creation of recreational and wildlife areas.

The people of California have time and again voiced approval of the Central Valley Project. However, the big land owners and the Pacific Gas and Electric Company are determined to

kill it if they can. The opposition of the land sharks is based on the 'excess lands' provision of the Reclamation Act. This provides that landowners who use water from Bureau of Reclamation projects must agree to sell their 'excess lands' (over 160 acres) within 10 years at a price that does not include added value due to the construction project. The land sharks don't like this, even though there is nothing compulsory about accepting reclamation water.

'Them That Has, Gits'

The great majority of small farmers will sign up for Reclamation water. In the course of some years because of this increased irrigation and because the Bureau's plan calls for diversion of flood waters to replenish the underground reservoir, the water table will rise again. Thus, the big landowners stand to retain their holdings and have the free water supply replenished for them, without spending a dime if they just sit tight. In spite of this free ride guaranteed them by the Operating Rules of the Price System, the land sharks of the Central Valley are not satisfied.

They don't want to wait that long. *They want to kill the Central Valley Project now.*

In cahoots with them is the big Pacific Gas and Electric Company. It has a monopoly on the distribution of power in northern California, at the maximum rates that the traffic will stand. Naturally, in view of the examples set by T.V.A. and Bonneville, they dread competition from a Central Valley Authority. Prices might be cut and that's bad business in any Price System. Prices might even be cut low enough to make electric power abundant. That's even worse for the Price System. Abundance must be averted at all costs in all fields, for the main-

tenance of an artificial scarcity is the life's blood of this system. If scarcity is abolished, North America can move into a higher order of civilization, on short notice. Naturally, that's *very bad business*. So, these two gangs of free enterprisers are prepared to fight.

'Let Him Now Speak or Else —'

The lines are forming among the people of California, in its state legislature, and in the Federal Government for a fight to the finish on the Central Valley Project. The power and land interests have their political prostitutes in the state and national governments. Among the several moves that are being made are the following. They want to have the entire project taken out of the hands of the Reclamation Bureau and put under the control of U. S. Army Engineers.

The reasons for this are first that the 'excess lands' provision does not apply to Army projects; second, Army projects do not require repayment of construction costs by users of the project; third, the Army is mainly interested in flood control and navigation and not multiple-purpose projects. Another move that is being made is to have the 'excess lands' provision repealed in the U. S. Senate.

Still another move the sharks are making is an effort to have the entire project transferred from the Bureau of Reclamation to control by the State legislature. Naturally, since state politicians are more picayunish and venal than federal politicians, they are easier to buy and manipulate. Once the free enterprisers get that far, they could do almost anything with the Central Valley Project. Another angle they are working is to have the State take over the power and water features of the Project and leave Uncle Sam holding the bag on the rest. This consists of the non-reimbursable elements of flood control and navigation.

'From Sea To Shining Sea'

There may be more angles that we haven't listed, and there is more to the Central Valley story than we can tell here. However, enough has been told to indicate how the fat maggots of free enterprise get fatter by destroying the physical America. This, let us be reminded, is the very foundation of our modern civilization.

Technocracy is not interested in defending the little free enterprisers in the Central Valley. It grinds no axes for any minority group under this Price System.

Technocracy, however, is deeply and unalterably interested in preserving and defending the physical resources of North America. It indicts and denounces any conspiracy from any source against that physical America as being pro-fascist.

The Central Valley Project falls far

short of Technocracy's Continental Hydrology System. It's only a step on the correct road. No overall hydrology system is possible in North America under the Price System. But, then, the Price System can't last much longer. When the Central Valley Project is completed, it will stand as a long-lasting monument to science and technology. When this Price System has gone the way of all decadent, non-functional social systems, perhaps the Project can be integrated into the complete, overall design.

The only hope of humanity on this Continent, and perhaps the whole earth, for a higher form of civilization lies in the scientific conservation and utilization of natural resources combined with engineering organization of all production and overall technological social controls in North America.

If this be treason against the lousy Price System, we are glad to shout it from the roof tops.

Events Make Men

'By culture we mean group behavior that makes the members of a community think and behave more or less alike, dress more or less alike, believe more or less in the same religion, accept common standards of morals, engage in more or less similar recreations. —This culture of ours is based largely on science and technology.—Mass production and standardization of bathtubs, automobiles, trains, airplanes and the ten thousand things that Europeans and Americans use every day have made collectivists of us. We use gas, water and electricity collectivistically. We travel collectivistically in such mass carriers as trains and ocean liners. We even eat more or less collectivistically when we remember that identical cans of vegetables and breakfast foods are found

on the shelves of grocers from coast to coast, and we dress in a collectivistic sense inasmuch as the banker and his tellers or the farmer who goes to town and the business man are hardly distinguishable from one another. It is harder and harder to be "different," and if we are too "different" in clothes, in behavior (conditioned largely by the machine) or in tastes, we may invite the attention of the police and even end up in a mental institution.' (Waldemar Kämpffert, in the *New York Times*, November 17, 1946.)

'Obstacles are those frightful things you see when you take your eyes off the goal.' (*Twin Cities Indicator*, August, 1946.)

Flashes of American History

VI.—A Virginia Blacksmith Constructs
a Reaper

By Ben H. Williams, 8141-15

The American rural economy in 1830, when canal-building was at its peak, and railroads in their initial stages of experimentation, was still fundamentally the same as at the beginning of colonial settlement. Our farmers were using ox-teams and iron plows with wooden moldboards; crude harrows; hoes, hand rakes and other aids to primitive cultivation. Grain was sown by hand and the harvest reaped with sickle or with the cradle, and meadows were mowed by the scythe. Threshing was done with the flail or with oxen treading out the grain on the barn floor. The individual farms, as near as possible, were self-sufficient. That is, each farmer produced his own food and stored as much as possible for the off-seasons; raised sheep with wool required in clothing for his family; cut his fuel and material for buildings from his woodlot, and exchanged a few of his products with neighbors largely on a barter basis. It was an economy of natural scarcity, requiring unceasing toil by all members of the family the year around.

Beginnings of Fundamental Change

BUT at the very moment, dynamic changes in the American agricultural scene were impending—unperceived, however, by all but a handful of our people. The newly settled areas of the Middle West—broad, fertile, and better suited for grain growing than those of New England and the Mid-Atlantic States—were meeting often with insurmountable difficulties at harvest time, due to the primitive hand methods. Improved transportation was running ahead of technical facilities on the Western farms, and big crops of grain often were left in part unharvested.

Invention stepped on the heels of this necessity. One day in July, 1831, a farmer boy in Virginia wheeled out of his blacksmith shop a strange device and announced to his neighbors that he was going to make a demonstration of a more-efficient method of reaping grain. That young blacksmith farmer was Cyrus Hall McCormick whose father, Robert McCormick, had spent many years trying

to perfect a grain reaper and had finally given it up as a hopeless dream. The son had succeeded where the father failed, and the former was now ready for the demonstration. Exactly one hundred years later, the grandson of this young Virginia blacksmith wrote of the event:

"Modern agriculture was born in Virginia on a hot July day in 1831. There is no written record of what took place on that momentous occasion. Even the exact date is lost in the maze of unwritten history. But on that afternoon Cyrus Hall McCormick demonstrated to a skeptical but *needy* world that his work was worthy."

Crude Beginnings

McCormick's reaper was not a pure invention. Like Watt's steam engine, Fulton's steamboat, Stevenson's locomotive, and most others, it was in large part based upon experiments in that direction by a line of British inventors running back as far as 1786. In Scotland, in 1826, Patrick Bell developed a workable reaper, the main

principles of which McCormick and a contemporary, Hussey, unquestionably copied a few years later. According to George Iles, "McCormick never acknowledged how much he owed to preceding inventors." At the London Exposition in 1851, McCormick's pretensions to priority were ridiculed by British writers, but the latter admitted that America offered the greater field for the use and development of the machine.

The reaper, however, did not immediately take America by storm. Farmers were slow in taking to this new-fangled device which, moreover, was crude and inefficient at first. After 1831, McCormick spent the next few years on further experiments, and did not obtain his first patent until 1834. Of this period he afterward wrote:

"During this interval I was often advised by my father and family to abandon it, and pursue my regular business, as likely to be more profitable, he having given me a farm. No machines were sold until 1840, and I may say they were not of much practicable value until the improvements of my second patent in 1845."

The Progeny of the Reaper

McCormick persisted in his course, nevertheless, making improvements himself and appropriating those of other designers. Later, he established his manufacturing plant and business in Chicago; fought his rivals for years over patent rights and with the picturesque methods of mid-nineteenth century "rugged individualists" in their competitive scramble for markets. Under the management of his son, Cyrus the Second, the McCormick Harvester Company sought to develop a complete line of agricultural implements and, finally, to achieve this monopoly merged with other

manufacturers and distributors into the great International Harvester Company. Summing up these developments, Cyrus McCormick, the grandson, observes: "The reaper is the progenitor of all those agricultural implements which run upon the ground to deal with grown crops." It was followed in 1837 by John Deere's steel plow with its improved moldboard design; in 1857 by James Oliver's chilled steel plow that would scour in all kinds of soil; by self-binders; mowing machines, hay tedders, rakes, and loaders; multiple row cultivators; grain combines; corn harvesters; tractors; power sprayers, including airplane dusters; and finally, to date, a successful cotton picker.

The Reaper and the Civil War

The reaper made possible the exodus from farm to factory, meanwhile increasing the food supply with less human labor per unit of production. Along with Ericsson's development of the iron-clad Monitor, Howe's sewing machine, and other devices, it played a significant role in the Civil War. Secretary of War, Edwin M. Stanton, said of it during that conflict:

"The reaper is to the North what slavery is to the South. By taking the place of regiments of young men in the Western harvest fields, it releases them to do battle for the Union at the front, and at the same time keeps up the supply of bread for the nation and its armies. Without McCormick's invention, I fear the North could not win, and the Union would be dismembered."

Just as the invention of the cotton gin by Eli Whitney in 1793 fastened the institution of negro slavery upon the young Republic, so 70 years later McCormick's reaper aided in its elimination. The irony in these cases

is seen in the fact that Whitney was a New England Yankee in no way sympathetic with slavery, while McCormick was a Virginia farmer and slaveholder whose sympathies in the Civil War were with the South. Technology moves on producing its social effects without regard to opinions or "sympathies."

With the advent of the reaper, American agriculture began its grand march toward potential efficiency equal to that of other industry. The full measure of actual efficiency in respect to both categories awaits the coordinating social design of the Tech-

nate. But, thanks to such technologists as McCormick and his successors, the materials are all in sight equally in industry and agriculture.

Meanwhile, not to get too far ahead of our story, I shall continue these rambling "Flashes" by touching upon another important development having its beginnings about this time simultaneously in Great Britain and the United States. My next "Flash" will bear the title, "Kelly Makes a Discovery in Steel."

References:

Cyrus McCormick, "The Century of the Reaper."
George Iles, "Leading American Inventors."

Lo! The Poor, Dumb Indian

Sixty years ago the Government put a dying tribe of Apache Indians on a reservation near Jicarilla in the northwest corner of New Mexico. The reservation covers over 700,000 acres. The land was divided into parcels and allotted to individual tribal members. The idea behind this was that private ownership would help to break down ancient tribal customs. It was hailed as a progressive move by everybody except the Apaches. "They generally paid no attention to the allotments and continued to graze their cattle and sheep, which they own individually, on the land just as though it were tribally owned."

'Although the Jicarilla Apaches possess stock as individuals, they maintain a special flock of sheep which supports the aged and indigent.' As the years went by individual tribe members voluntarily surrendered their allotments to the tribe as a whole in return for the right to use the land for grazing, etc. Of course, this is contrary to the sacred principles of free enterprise. But what else can you expect from a poor dumb Indian. By now all but 43,000 acres have been returned to the tribe.

To make this behavior even more trea-

sonable from a white man's Price System point of view the *Chicago Sun* reported on December 22, 1946 as follows. 'Surveys have indicated the presence of oil and the Apaches want any prospective proceeds to enrich, not a few individuals but the whole Jicarilla tribe.'

The end of this story is that the mighty United States Government has been forced to OFFICIALLY recognize the failure of good old free enterprise on the Apache Indian Reservation. This was done on December 22, 1946 and announced in a release of the Department of The Interior of that date. Hurray!

'I believe that we are lost here in America, but I believe we shall be found . . . I think the true discovery of America is before us. I think the true fulfillment of our spirit, of our people, of our mighty and immortal land is yet to come. I think the true discovery of our democracy is still before us. And I think that these things are as certain as the morning, as inevitable as the noon.' (Thomas Wolfe, in the last chapter of his posthumous novel, *You Can't Go Home Again*.)

Technocracy And Your Trade

The Bituminous Miner's Changing Status

By Organization Division, 8741-1

Prospects for bituminous miners in the postwar years depend upon several changing factors. Among these are the further development of coal technology and the increasing efficiency of its production and use. There is also the growing competition of the industry with other sources of energy such as oil, gas, hydro-electric, wind and atomic power. Finally, the miner's status will depend greatly upon the general level of all industrial activity. Let's look at these factors below and see how things are going to stack up for the bituminous miner.

Efficiency of Production

In 1891 one miner produced about 2.5 tons of coal in a 10-hour work-day. At that time less than 5 percent of the coal was cut by machines. In 1946, 55 years later, one man produces about 5.5 tons of coal in an 8-hour day; and over 90 percent of the coal is cut by machines. Mechanical loading was unknown in 1891. Even as late as 1924 it was used for less than one percent of underground production. Twenty years later, in 1944, 53 percent of all underground coal was loaded mechanically.

The result of this mechanization was that output per man-hour in bituminous mining increased 100 percent between 1919 and 1939. Between 1939 and 1945 it rose another 20 percent. Machine cutting, loading and strip mining increased during the war. Despite war-time shortages, new mobile loading machines and conveyors were installed underground. In strip mines larger draglines and new type excavators were added. Strip mining accounted for only about one percent of total coal tonnage in 1919. By 1939, this had risen to over 9 percent and now is over 15 percent.

This development of technology is reflected also by the record of increasing production and declining employ-

ment in bituminous mines. The largest tonnage of coal in any pre-war year was produced in 1918. Production, then, was 579,000,000 tons and employment stood at 615,000 miners. In 1944 production was 619,000,000 tons, but employment had declined to 354,000. Thus between 1918 and 1944 the overall trend was that production increased about 7 percent, but employment declined more than 35 percent.

As late as World War I, all coal was loaded by hand. Since then, up to June 1945, over \$500,000,000 worth of mechanical equipment was installed. To this the Bureau of Labor Statistics, in August 1946, adds the following:

During the war, coal operators encountered serious difficulties in maintaining their production facilities and in replacing worn-out equipment. Nevertheless, substantial gains were made in average man-hour output. When operators are able to replace worn machinery with improved equipment, a rise in efficiency will naturally ensue.

Efficiency of Use of Coal

Steam-electric utility plants required over 7 lbs. of coal to generate one kilowatt-hour of electricity back in 1890. Today, the best plants use

less than 1 lb. of coal per kwh. *Business Week* for December 7, 1946, reports that 'in railroad freight engines, 114 lbs. of coal now will do the same amount of work as 170 lbs. in 1920. In 1918 the iron and steel industry used 3,194 lbs. of coking coal per ton of pig; today, the average is 2635 lbs.' The trend toward increased efficiency of coal use by large industrial users is general.

TNEC Monograph No. 22 cites several examples.

In 1920 the average number of pounds of coal per thousand gross ton-miles in freight service on steam railroads was 172; by 1938 it was only 115, a reduction of 33.1 per cent, or a reduction in use of 25,998,982 tons for 1938.

The pounds of coal per passenger train car-mile between 1920 and 1938 were reduced from 18.8 to 14.9, a decrease of 20.7 per cent, or a reduction in use of 5,546,165 tons for 1938.

Further examples are cited by the Monograph, notably in cement manufacture and in coke ovens. According to the hearings before the TNEC, there was an actual shrinkage of employment in all coal mining of 272,-680 jobs between 1923 and 1937. Increased efficiency of use accounted for 33,950 of these lost jobs, or 12.4 percent.

In an effort to counteract the contracting use of coal, the coal industry is studying new uses for coal. The 1947 budget of Bituminous Coal Research, Inc., was set at \$447,000. This compares with the less than \$13,000 annually paid out for research between 1933 and 1940. About half of the 1947 budget is devoted to research on projects designed to improve the competitive position of coal on railroads and in large industry. The other half is for technical

work on residential and small commercial uses.

Among the new developments are a smokeless stove for home use. It will be on the market soon. Then there's a fully automatic stoker that 'takes coal from the bin, feeds the fire, heats the house, and puts the ashes into a can.' The development of over-fire air jets is expected to eliminate the smoke nuisance. 'Jets of air are shot over a fire, right above the coals, supplying enough air and mixing action to completely burn the smoke in the furnace chamber.' They have already been installed on over a thousand locomotives.

The darling of the coal researches, however, is the gas turbine locomotive that burns powdered coal. Railroads use about one-fifth of the total coal output. On January 1, 1946, there were 43,530 locomotives in service, of which 31,932 were coal burning steam locomotives. The coal turbine is expected to lower railroad fuel costs, markedly. Just how this is going to improve the production picture in coal is hard to see. If the turbines use less coal, there will be less miners needed. On the other hand, if they're good enough, they may halt further inroads by diesel engines.

A number of other new uses for coal are being explored. Notable among these are the by-products, such as sulfa drugs, medicines, plastics, textiles and chemical products. The Pittsburgh Consolidation Coal Company is currently engaged with the Standard Oil Co. (N.J.) on a project for the carbonization and complete gasification of coal.

Other Fuel Sources, Competition

One of the most important factors behind the bituminous miner's changing status is the loss of coal markets caused by consumer conversion to

other fuels. Monograph No. 22 has the following to say on this point:

Of primary importance among the many innovations which have reduced the amount of labor required to produce a unit of energy (a British thermal unit) has been the substitution of fuel oil, natural gas and hydroelectric power for coal. The use of these substitute fuels has been steadily increasing with marked effects upon labor productivity. . . . It has been estimated that between 1923 and 1938 approximately 810,126,000 tons of coal were displaced by these other three fuels. The replacement of coal by other fuels is pertinent to this study because the production of the substitute fuel involves much less labor per unit of energy than does coal.

The account then goes on to relate that, at 1941 wage rates, the labor cost of one ton of coal was \$1.27. The equivalent of a ton of coal in fuel oil, four barrels, cost 68 cents; the equivalent in natural gas, 20,000 cubic feet, cost 8 cents; and the equivalent in hydroelectric power, 2,000 kilowatt-hours, cost one cent. Thomas Kennedy of the UMW, testifying before the TNEC, stated: 'As against competing fuels labor plays a very important part in the production of coal. Oil, gas, etc., come from practically laborless industries.'

Between 1923 and 1937 there were 16,100 coal miners displaced by the substitution of fuel oil; 23,910 by natural gas; and 34,540 by hydroelectric power according to TNEC. The report adds:

Of the estimated 74,540 jobs lost by miners between 1923 and 1937 in the coal industry because of the use of substitute fuels, only a very small portion has been made up by labor expended in producing substitute fuels. The bulk of the labor

displaced by substitute fuels must be regarded as a net displacement.

Coming down to more recent times, *Domestic Commerce* reports in its December, 1946, issue as follows:

A recent survey by the National Housing Agency of 629,000 applications for home construction showed that only 27 per cent of the applicants requested coal heat.

Business Week for December 7, 1946, points out that 52 percent of these same applicants requested gas heat and 21 percent wanted oil. The latter story goes on to state:

In 1940 diesels accounted for only 0.1 per cent of the railroads' freight ton-miles, 6.7 per cent of the passenger car-miles, 10.2 per cent of the switching hours. In the first eight months of 1946 these percentages had jumped to 12.1, 20.4 and 32.9 per cent, respectively. The Interstate Commerce Commission estimates diesels displaced 14,136,625 tons of coal in eight month of 1946, against 1,750,039 tons in the like 1940 period.

In electric utilities (excluding hydroelectric power) oil and gas supplied less than 7 percent of the fuel used in 1920. In 1946 they approximated 22 percent. In terms of coal these figures mean that in 1920 oil and gas supplied the equivalent of only 3,216,000 tons of coal. But, in 1946, it amounted to almost 21,-000,000 tons.

Of the 865 locomotives ordered in 1945, 702 were diesels. In December, 1946, railroads had on order 347 locomotives of which 267 were diesels and only 80 steam. At the beginning of this century, bituminous coal furnished 70.6 percent of all the energy consumed in the U.S. By 1942 it had been squeezed down to 47.7 percent. The use of oil and gas in the

same period rose from 9.3 percent to 36.3 percent; and hydroelectric power from 2.1 percent to 10.9 percent of the total energy consumed.

In 1925 natural gas service reached only 359 counties in 19 States. Now it reaches 1,268 counties in 33 States. During the first six months of 1946 the natural gas industry filed proposals with the FPC for 6,000 miles of main trunk pipelines. The FPC approved 2,400 miles. The coal industry shudders at this expansion of competitive fuels. It says that if all the applications now pending before FPC are granted, an additional 50,000,000 tons of coal a year will be displaced.

Bituminous coal is still the dominant factor in energy production. But, old King Coal sits on a shaky throne. His reign is threatened from all sides. Among other threats are underground gasification of coal, hydrogenation of coal, electric wind generators, extraction of oil from shale, fuel from farm products, and atomic energy. There are other proposed sources of power which do not concern us here, since they are not yet practical. The above list is, however, practical and of growing importance.

Underground gasification of coal mines has been carried out in Russia for the last eleven years with reasonable success. Now it will be attempted here. The Alabama Power Company, in cooperation with the U. S. Bureau of Mines, is undertaking the experiment. A coal vein at Gorgas, Alabama, will be set afire and the resulting gas stored for use in a power plant nearby.

The U. S. Bureau of Mines is currently spending \$30,000,000 to develop a process of getting oil from coal, hydrogenation.

'The wind blew last year and it

will blow again next year.' This is an unbeatable argument for electric wind generators. The power is free and inexhaustible. A 1,000 kilowatt wind turbine has been in operation for four years at Rutledge, Vermont. The FPC has designed a 6150 kilowatt unit that is not yet in operation.

At Tornberg, Sweden, a shale oil project has been in operation since the beginning of World War II. The Swedes got a lot of oil out of it, and still do. The U. S. Bureau of Mines is constructing an experimental plant at Rifle, Colorado, to exploit the immense shale reserves of the West. This project was authorized by Congress in 1944.

Under the same authorization the Bureau of Agricultural and Industrial Chemistry, of the Department of Agriculture, has started operations at a new plant at Peoria, Illinois, which will produce synthetic fuels from farm residues. About 95 gallons can be obtained from every ton of residue.

Last, but maybe one of the first in the last analysis, is atomic energy. An experimental nuclear power plant is being built near Oak Ridge, Tennessee. Various studies of the competitive possibilities of atomic power have been made. *Business Week* for October 26, 1946, reports on one such study. The Northern California Association of Scientists made it. Their report concludes that 'it appears likely that plutonium reactors may produce power for 5% to 15% less than can be done in competitive coal-fired plants.'

General Industrial Conditions

The last of the changing factors determining the postwar prospects of bituminous miners is the general level of industrial activity. The demand for soft coal is closely geared to the tempo of the industrial machine as a whole. Between 1926 and 1930,

all good years except the last, coal production averaged 518,878,000 tons a year. Between 1931 and 1935 (the depression, remember?) coal production dropped to an average of 351,434,000 tons a year.

Domestic Commerce for December, 1946, states as follows:

A stabilized or growing market for coal is indicated only by an advancing tempo of economic activity sufficient to compensate for demand lost to competitive fuels and increased efficiency in utilization. An adequate supply of petroleum and natural gas at current prices will probably result in the eventual loss of an even more substantial share of the coal market than had been lost before the war. . . . The synthesis of all the apparent factors in recent developments seems to presage problems of unprecedented magnitude and severity for the industry unless forces in favor of continued high production come into play.

Bulletin No. 882 of the Bureau of Labor Statistics concludes as follows:

Postwar opportunities for the relatively adequate employment of workers will be affected by a number of circumstances, notably by demand for coal and the resulting volume of output. After the exceptional reconversion and early postwar needs for coal have been met, the levels of production, employment hours, and weekly earnings will be dependent mainly on three possible developments. One of these will be the degree of success of the bituminous coal industry in competing with other fuels and sources of energy. A second factor . . . is the course of labor productivity. In the event of substantially constant levels of production, increases in average man-hour output will entail displacement of labor, at least in terms of man-hours.

Outstanding in importance in the future of opportunities for employ-

ment and earnings in coal mining will be a third factor: the general level of business activity and of opportunity for employment outside of coal mining. High general levels of production and employment will tend to maintain a large demand for coal and will at the same time enable surplus miners displaced by increased productivity to find profitable work in other employments.

The Payoff

There you have it, Mr. Bituminous Miner. If high levels of production are maintained, increases in output per man-hour will displace many of you. If the coal industry continues its inability to compete with other fuels, many of you will be displaced. When the inevitable 'bust' that must follow this present artificial boom makes its inevitable appearance, many of you will be displaced. In fact, there seems to be only one sure thing in the whole picture for the miner. That is, there will be less and less bituminous miners as the postwar years roll on. Also, the prospects of those who remain will become more uncertain.

The Price System does offer you one tiny ray of hope. If you are displaced by any one of the numerous factors impinging on the coal industry, you can look for a job in other employment. Maybe you know that already. If general economic conditions are good, you may have a chance to connect. That is, IF Technology hasn't been at work there too. But it has. Technology pervades American industry. Technology pervades the entire American social system. This whole story of the coal industry's troubles is a story of the impact of technology on many fronts.

In 1920 there were 639,547 bituminous miners. Twenty-five years

later, in 1945, there were only 322,000. In the meantime, production went up. That is the classic story of America today in nearly all industries, rising production and declining employment. The only way to produce more in this Age of Power and Technology is to work less. Where are the more than 300,000 bituminous miners who were displaced? They were swept into the dustbin of technology.

Energy is basic in our power civilization. It is prior to and independent of both capital and labor. Under the Price System of trade and commerce, this fact is obscured. Energy and technology literally determine our very existence. This story relates how the bituminous miner has been affected by their impact up-to-date. The trend will continue thus, making the miner's status more precarious. Labor unions can only develop stopgap solutions to this condition on a short term basis. They cannot reverse the trends and go back to the old days of full employment at back-breaking toil with long hours and low pay.

Indeed, who wants to! Yet that is the only way 'full employment' can be realized. This mirage of 'full employment' is incompatible with technology. The only way to produce more is to use less man-hours and more technology. This dictates that, under the Price System, unions or no unions, the bituminous miner faces a very uncertain future. However, it need not be so. When we bear in mind that energy and technology have created nearly all the worthwhile things in North America today, we get a tip-off on what to do about it.

The tip-off is that the only correct solution to the bituminous miner's precarious status does not lie within the framework of the Price System. Business and politics are equally fu-

tile. The industry must be reorganized from top to bottom along engineering lines. Then it must be coordinated and integrated with all other industries, reorganized along like lines. In fact, our entire social system must be reorganized that way. We must scrap the Price System of trade and commerce and set up a technological system.

All North Americans are in about the same boat as the bituminous miner. There is no lasting security or stability for anyone on this Continent as long as it is operated by Price System methods. By scrapping this old way of existing and reorganizing for a better future, we can guarantee stability, security, and abundance to all citizens. A gigantic project like this needs a scientific design, an overall blueprint of social operations. This has been worked out by **Technocracy Inc.** It is ready for inspection by any citizen at any time. It is ready for adoption by North America anytime we want it.

Technocracy invites the bituminous miner to investigate its program. Join this non-profit, non-political, non-sectarian, non-Price System social movement. Its aims do not conflict with the aims of unionism. Technocracy stands for an entirely new social system. It stands for equal opportunity in life for all citizens regardless of race and religion. It stands for a system designed to produce and distribute abundance for all. It stands for freedom from insecurity and scarcity. It stands for the abolition of any minority privilege to interfere with the General Welfare. It stands for a higher form of civilization on this Continent, a scientific social system. It stands for the New America of tomorrow.

You are welcome, Mr. Miner. It's your job as much as ours!

Technology Marches On

The Pressure Increases

by Research Division, 8741-1

Agriculture

It Pays In Dollars and Cents

SOME of the pressure behind farm mechanization was illustrated by a story in The Farm Column of *Fortune* in its July, 1946 issue. Extracts from it follow: "The mechanics of cost cutting have been plotted in several ways. For example, a farmer hard at work has an hourly personal output of one-tenth of one horsepower. In a full day (ten hours) he will deliver only as much work as a one-horsepower motor does in one hour. If he buys that labor in man-power he will pay \$4 and up for the day's work. If a motor does the work in an hour, the cost will be less than 4 cents."

The story then goes on to explain that field work takes about 35% of the average farmer's time and barn work about 65%. The rapid spread of field mechanization has increased productivity greatly there. However, a larger opportunity for mechanization, or rather electrification, lies in the 65% of time devoted to chores and necessary work around the farm buildings. It is pointed out that the tractor can be used for some of these jobs such as grinding, ensilage cutting, blowing, pumping water, etc., but that a tractor is unhandy for this work and conflicts with its other functions. Over 225 uses for electrical service have been listed on the average small farm and small motors can do these jobs at low cost without interfering with other equipment. *Fortune* then goes on:

"A pressure water system, for instance, is frequently the first electrical installation. The economics of employing this "hired man" have been worked out on an average farm in Ohio in a joint study by Westinghouse and the Ohio Public Service Co. The study showed that when the cows were watered by hand twice a day they produced 216.1 pounds of milk. With continuous water before them, after the pressure system and automatic waterers were installed, they produced 221.6 pounds of milk. The hand work saved some 175 hours during the five winter months, which at the hourly going wage of 64 cents translated the savings into \$112. The milk check increased \$36.35 for the extra production, making the total gain \$148.35. On the debit side, the cost of juice for pumping was \$1.79. Depreciation on the \$282.07 installation at 7 per cent, plus an arbitrary allowance of \$5 for maintenance, brought the cost of operation to \$26.53. In other words the system saved \$121.82 in its first season."

Fortune concludes by pointing out that: "Desirable and, in the long run, inevitable as full farm electrification is, there is an offsetting negative factor of social significance. Full electrification means even more technological unemployment, more former hired hands looking for other work." *Fortune* concludes its splendid analysis with a typical asinine Price System conclusion that rural communities should organize woodworking shops

and women's apparel factories to offset the effect of technological disemployment. Ye Gods! Little Bobby Jones down in the next block could come up with a better synthesis than

that. Hereby we advise *Fortune* (and dare them to print it) that the only solution for the impact of Technology is technological social controls.

Aviation

'Into The Valley—Rode The 600'

United Air Lines reports that the use of spun glass cord for lacing the wiring harness of two-way radio communication units on its planes reduces the need for frequent replacing. The linen cord formerly used was greatly affected by the heat and high humidity. At United's Cheyenne maintenance base alone, time savings amount to about 600 man-hours a year.

Entirely Means All Out

The Lindberg Instrument Co., Piedmont, Cal. has developed an 'en-

gine trouble analyser' for aircraft. The device weighs about 90 lbs. It is installed as a part of the plane's apparatus and operates while the plane is in flight. The Wall Street Journal in its January 10, 1947 issue says that: 'It enables the flight engineer to locate troubles in the ignition system, fuel injection system and hydraulic or electrical accessories.' It is said to be so accurate as to reveal even a fouled spark plug. It eliminates entirely the trial and error method of trouble shooting by ground crews. The word 'entirely' in the last sentence gives a cue as to what is due to happen to a large part of the man-hours of airplane mechanics.

Textiles

If One Can't, The Other Must

U. S. looms and staple spinning machines have lagged behind foreign developments, according to a story in Business Week for September 28, 1946. The story tells of many new developments at hand which, however, are being held back by the terrific demand for textile products. Traditional builders of textile machinery are so swamped with orders for whatever they can get out the quickest that they have no time to produce radically new models. These have been designed and companies not before in the textile machinery field are cutting in. So, it won't be long now. The *New York Times* for December 22, 1946,

reports that U. S. Textile industry is investing \$250,000,000 for plant modernization in the next two years. 'There will be no expansion of existing plants. It is likely there will be fewer factories because some of the "marginal" plants must close.' More modern machinery will be installed 'to cut down the per unit cost of goods.'

100% More With 2/3rds Less

A revolutionary new knitting machine was unveiled recently at the Marcus Hook, Pa. textile machine laboratory of American Viscose Corporation. The Wall Street Journal in reporting on it said that American

knitting mill men were impressed. 'They had reason to be impressed. The machine turns out about 58 square yards of knitted cloth an hour for underwear and other apparel. That's about twice the productive rate of standard American machines. The new machine is manufactured by F.N.F., Ltd., a subsidiary of Courtalds, Ltd., the British rayon firm.

'The British-made unit slashes sharply into labor costs, too. The same workman who now operates two American machines can run a battery of six of the British type, because each stops itself when thread breaks. The F.N.F. machine is so radically different in appearance as to be not easily recognized as textile machinery by the average viewer.' It can knit cloth up to width of 84" from cotton, rayon, nylon or any other pliable yarn. Orders for the new unit are rolling in.

You Figure The Increase

Another radical advance has been made in textiles, this time by an American firm, Industrial Rayon Corporation of Cleveland. It is a continuous-process machine for making viscose rayon yarn. In reporting on this in its September, 1946, issue *Fortune* says: 'The machine produces as much rayon in four and a half hours as the conventional process, with its several steps, does in five and a half days. According to Hayden Kline, forty-four-year-old vice-president of the company and inventor of the process, the machine cuts the labor cost of 150-denier yarn by nearly 50 per cent. The company's chemists and engineers who have been laboring to speed up the machine call it their Model T. One man close to developments surmises that the still secret improvement will jump productivity 30 per cent.'

Futility

It's Still An Opinion

General Electric Co. has developed a device that 'measures' opinions. Each person attending a lecture, motion picture or any type of meeting is provided with a dial-like device. The *New York Times* on September 29, 1946 describes the 'measurement' process as follows. 'Each member in a group secretly records the nature and strength of his opinion by moving a pointer on a dial which he holds.

Within a few seconds a selector comes up with the average reaction, indicating it on another dial.' Now if some bright wit would only invent a gadget to distinguish between an opinion and a fact that would be something. It could be arranged with a double dial, one for opinions and one for facts graduated on a ratio basis. A correct ratio would be about 80,000,000 opinions to equal one fact. That's being generous, too.

Hospitals

Shade of Florence Nightingale

Out of biological laboratories comes a device that will multiply the ef-

ficiency of nurses and introduce exact measurement into a necessary clinical procedure. It is an electronic thermometer. As described in the Amer-

ican Weekly for October 6, 1946 it operates as follows. 'If it works as well in the hospital as the laboratory, nurses can say good bye to the present tedious chore of going from room to room to take the temperature of each patient several times a day. Instead there'll be scenes such as the following. A bell will ring in each room. Patients will reach out for small metal thermometers, kept beside their beds, with a long flexible wire attached, and will place them in their mouths. They'll wait until a second bell rings, then remove the thermom-

eters. No nurse will have to squint at the tiny numbers. Instead, all temperatures will be recorded automatically in a central room. Thousands of nurse hours will thus be saved, and the element of human error will be removed. A constant check on seriously ill patients can be maintained by strapping one of the devices under their arms. The apparatus can be adjusted so that a bell will ring in the central room if body heat passes the danger point.' This development displaces skill, opinions and labor.

Patents

'Just Like A Cemetery'

The Patent Office is crying for help. They are being swamped by U. S. inventive genius. According to the Wall Street Journal for October 22, 1946, Patent Commissioner Casper W. Ooms said 'his office could close up shop right now and have enough work left to keep busy for three years.' Mr. Ooms estimates there will be

100,000 requests for patents in 1946. The best previous year was 1929 with 94,000 requests. 'Years ago, the Patent Office gave up trying to keep models of the inventions, but it's still pressed for room, what with detailed patent plans pouring in by the hundreds each day.' Says Mr. Ooms: "The trouble here is that we have to keep all the old stuff while we're adding the new, just like a cemetery."



'Pop' Lays It On The Line

Cheops, Alexander, Caesar, Augustus, William the Conqueror, Louis XIV, Peter the Great, Cleopatra, Shakespeare, Nero, even Victoria, and Lincoln, could have associated together in complete harmony and compatibility in the age that any of them lived, as no basic change took place between the ages in which they lived. But ten days in today's world would drive any of them nuts.

There are 192,000 railroad bridges in the U. S. with a total length of about 4,000 miles. (*Dupont Magazine*, December, 1946.)

The flow line of goods and services from the basic raw materials to the ultimate consumer is burdened with many Price System obstructions. Transferring property rights in one direction necessitates a transfer of debt claims the opposite way. The possibility of a profit in each transfer makes business toll gates a major objective. As the operations become more complex the flow line is longer, the number and type of interferences increase, the margin between production capacity and actual goods and services delivered becomes greater. Somebody ought to be able to do something about that soon. Is that somebody you?

Each in His Own Tongue

by Publications Division, 8741-1

Voice of the Price System

Thus Speaketh N.A.M.

It is conservative to say that if governmental interferences do not choke us, we are on the threshold of the most glorious period of man's eternal struggle to improve his economic well-being.

The future is so promising that only a spinster could have any legitimate reason for not being interested.

The first sentence is by retiring president Robert R. Wason and the second by executive vice president Walter Weisenburger of the National Association of Manufacturers made at the 51st annual congress of N.A.M. held at the Waldorf-Astoria hotel, New York. (As quoted by the Wall Street Journal, December 7, 1946.)

Let 'er Rip, Bud

Of course there will be a bust. I am a strong advocate of the boom-and-bust economy. That is what has made this country great.

Herbert U. Nelson, executive vice president of the National Association of Real Estate Boards on a radio panel discussion. (As reported by Carleton Kent in his column in the *Chicago Times*, December 21, 1946.)

Me And My Pals First

There are approximately 1,800,000 workers on the railroads of the United States and Canada. I know how these workers feel about the St. Lawrence project. They are on record many times in opposition to the proposed development.—I think it must thus be clear to all of us

that there is no real justification for the expansion of our transportation plant.

President H. W. Fraser of the Order of Railway Conductors, before the New York State Conference in Opposition to the St. Lawrence Seaway Project. (As reported in *Labor*, November 17, 1945.)

Philosophy a la Carte

Is the chief cause of poverty lack of money? (Yes or No) No, the chief cause is feeling poor. If you feel poor, you are poor, no matter how much money you have.

Albert Edward Wiggam, D.Sc. in his column 'Let's Explore Your Mind.' (As quoted by the *Chicago Daily News*, June 11, 1946.)

All God's Chillun Got Segregation

As for "racial equality," all races have a right to segregation, otherwise what sort of human beings would the Lord expect when his chosen people return to the Holy Land.

Extract from an editorial in the Chattanooga, Tenn., *News-Free Press*. (As quoted by the *American Freeman*, January, 1947.)

Love Me, Love My Fascist Dogs

The hanging of eleven men convicted at Nuremberg will be a blot on the American record that we shall long regret.—I pray that we do not repeat the procedure in Japan, where the justification on the grounds of vengeance is less than in Germany. U. S. Senator Robert A. Taft,

(Rep. Ohio), at the Kenyon College conference on the heritage and responsibility of English-speaking peoples held at Gambier, Ohio, October 5, 1946. (As quoted by the *New York Times*, October 6, 1946.)

Maybe The Earth Is Flat, Too

I'm firmly convinced that petroleum products in this country have been made abundant, not because we were blessed by nature with more petroleum than other peoples, but because our economic system encouraged our people to go out and find petroleum and make it abundant.

Reese H. Taylor, president of the Union Oil Company of Los Angeles, speaking at the 26th annual meeting of the American Petroleum Institute. (As quoted by the *Los Angeles Examiner*, November 14, 1946.)

And They Shot Abe Lincoln

Rent controls caused the housing shortage. It will continue as long as rents are held below people's ability and willingness to pay rent.

Dr. V. Orval Watts of The Foundation for Economic Education in a scholarly treatise on the housing problem. (As quoted by Carleton Kent in his column in the *Chicago Times*, January 15, 1947.)

Treason Is A Mild Word

The new Pearl Harbor will not be the bombardment of naval units in port or flying or atomic bombs which destroy towns or industries by surprise. Instead the fifth column will be used composed of men of double nationality, one apparent and the other always potential, who will paralyse the circulatory system of the lives of peoples . . . through doors stupidly opened to them by innocent and blockheaded inorganic democracies.

Generalissimo Francisco Franco, fascist Puppet of Spain, addressing a military audience at Saragossa, Spain, December 15, 1946. (As quoted by the *Chicago Sun*, December 16, 1946.)

The 13th Century Speaks

The Pope wishes the clergy to enter politics and not confine themselves to the sanctuary. The idea that the church is not in politics is dangerous.

Catholic (Roman) Bishop Henry J. Grimmelsman of Evansville, Indiana to a group of Catholic business men. (As quoted by *The Converted Catholic* October, 1946, from a report in the *Chicago Tribune*, May 5, 1946.)



Voice of Technology

Science Will Bridge The Gap

We are in the midst of a revolution in our physical environment so vast and so rapid that our minds can scarcely keep up with it. But there are other things that cannot keep up with it either, notably our social ideas, our habits of life and our political and economic institu-

tions. Our political institutions, for example, are mainly rooted in the eighteenth century, but our swiftly moving technology is largely a twentieth-century phenomenon. Consequently we live in a kind of bifurcated existence, and the gap between what we know and what we need to know becomes wider and deeper.

Raymond B. Fosdick, President, Rockefeller Foundation in an article in the *New York Times Magazine*, November 24, 1946.

'The Heathen Chinese Is Peculiar'

I perceive that an American university is an institution of physical training, where certain intellectual discipline is especially provided for feeble-bodied students.

Observation of a Chinese student on the status of higher learning in the U. S. (As quoted by Morris Fishbein, M.D., in his column in the *Chicago Times*, November 13, 1946.)

It's The Price System, Major

I have seen youngsters smother hand grenades with their bodies and be blown to bits to save their comrades. But one of the first things noticeable to a veteran returning from overseas is so many individuals and groups working for themselves first. Sometimes it seems to a returning veteran that our country is being torn apart by selfishness.

Paul Douglas, University of Chicago economist who joined the U. S. Marines as a private at the age of 50 and rose to be a Major. (As quoted by Frank Smith, Veteran's Editor of the *Chicago Times* in his column December 17, 1946.)

They Planned It That Way

The more we endeavor to use our resources for socially determined ends, the more surely do the conceptual and procedural bottlenecks of the law arise to stop us. This is one of the reasons why a third of the nation is ill-housed and may very well, and legally, remain so.

From an article by Richard F. Watt, member of the U. of Chicago law school faculty in the *Lawyer's Guild Monthly*. (As quoted in the *Chicago Sun* August 18, 1946.)

A Blueprint Is Waiting

Planning human life in accordance with growing knowledge of the nature of fundamental human needs, is not a task which can be, or will be, undertaken by political leaders who have little regard for the nature of human needs and no knowledge of the technological resources which can now be mobilized by intelligent organization.

Lancelot Hogben in his book *Treat From Reason*.

As A Man Is So He Thinks

Objectively consciousness is the passage of impulses through the highest brain centers. Soul, Mind, Desire, Conscience, have no external, real existence; they are names for different groups of reactions. We act only to adjust ourselves to our environment, and rest only when that adjustment is made. As soon as we become incapable of this adjustment we die.

John Yerbury Dent in his book *The Human Machine*.

No Compromise

Leave the matter of religion to the family altar, the church and the private school, supported entirely by private contributions. Keep the Church and the State ever separated.

Ulysses S. Grant, 18th President of the United States in his *Memoirs*. (As quoted by the American Freeman, April 1946.)

'More than 2¼ million boys and girls 14 through 17 years of age were at work in the United States in April, 1946, according to unpublished census estimates.' (Labor Information Bulletin, January, 1947.)

In The Question Box

Science Is A Method

By Speakers Division, 8741-1

What are the qualifications of individuals who represent 'Science' in this movement?

This question is loaded with implications, inferences and bum logic. It implies that science is something unrelated to Technocracy. It states there are representatives from this unrelated group in Technocracy. It infers that the qualifications needed in that other field are necessary to validate Technocracy. The logic is lousy, and the assumption erroneous.

Science is not a separate group of men. It is a method of procedure, together with the body of knowledge that has been acquired by exercising that method. This body of knowledge is organized and verifiable. It has many branches. Each branch has its own field of technical problems. For instance, physics deals with the laws of inanimate things such as light, heat, sound, hydraulics, electricity, mechanics, etc. Biology deals with the physiology, morphology, ecology, etc., of living organisms such as plants, animals and man. Then there is a branch of science called biophysics, which deals with phenomena involved where the two fields overlap. An example would be in the use of supersonic sound waves. When applied to testing steel for cracks and other flaws this would be a technical problem in physics. When applied to homogenizing milk, it might be called a **problem** in biophysics, since both biology and physics are involved.

The same overlapping occurs in many branches of science. There is chemistry, biochemistry and physical chemistry; astronomy and astrophysics;

geology and geophysics; and so on. Even in branches of science that may not overlap such as, for instance, archaeology and aeronautics, there is a common relationship in the overall methods used.

The point of all this is that there are not many sciences, but only one science. It is not a special body of knowledge or a separate group of men. Science is a method of procedure for arriving at solutions to problems. It pervades our entire culture today. Modern industry is an outgrowth of the application of the scientific method to problems of production of goods and services.

Being, as it is, a method of operations, no group or individual can get a monopoly on it. Any one who exercises the scientific method could be called a scientist in his own sphere. Therefore, although we have trained specialists in all branches of science who stand above the crowd in achievement, it is impossible to isolate and identify scientists as a group. A technician, for instance, a power house attendant, must operate the power producing machinery in accordance with the physical laws involved. To that extent he exercises the scientific method.

An engineer building a bridge had better get his decimal points correct. Whether it is as a technician, engineer, academician, or advanced researcher, whether it's in applied or pure science, the method of procedure, tailored to fit the field, is the same, in all cases. There are two steps, or stages, involved. First, you collect all the available facts in the case. Then you exam-

ine the problem by breaking it down into its component parts. This breakdown will reveal certain cause and effect relationships in the data. These may then be classified and interpreted. This process uncovers generalizations, or laws, which are inherent in the data. This first step of the scientific method is called analysis.

The second step is one of synthesis. Here you make use of these generalizations, or laws, to recombine the factors into a whole, or a new form. Induction (reasoning from the parts to the whole) and deduction (reasoning from the whole to the parts) are both used in the scientific method. They are not used from a basis of prior assumptions but in strict accord with facts. Observation, research and experiment are used throughout both steps. The synthetic step might also be called the operational step. It seeks to apply physical laws to the phenomena of the world around us so as to indicate solutions to problems and to determine the next most probable development in any field.

Thus, the nature of science prevents it from ever becoming the special property of any group. It belongs to everybody. Ask yourself which researcher in pure science discovered the principles of the lever, the wedge, the pulley, the inclined plane, the wheel. Who discovered fire? Who first smelted iron ore? The science of today stands on the shoulders of the science of yesterday and so on back to the beginning of social life. Contributions to it have been made by countless thousands of unsung individuals in addition to those recorded in history. It is both because of this and because science is a method of operations that it is the common property of all mankind. The fruits of science belong to the people.

Say what you will, there is no way to dodge these facts. Because of the

pervasion of science in American civilization, there is no such a thing as some mystical body having representatives in Technocracy. Science and scientists are everywhere. Technocracy is itself a branch of Science. It is the social aspect of all science. Consequently, it is in no need of representatives from other branches of science who have little or no training in its social aspects. This is not intended to deprecate the accomplishments of other scientists in the general field. Technocracy salutes and respects any and all science. It goes even further. Technocracy states that science is the only hope for North America.

Nearly all the worthwhile things in modern American civilization came about as the result of science. What Technocracy is after is to apply the scientific method to the operation of our entire social order. It is not enough that it is used to a limited extent in industrial production and in other fields. Science and technology have demonstrated their worthiness by developing America's industrial structure to the point where it can now produce and distribute abundance to all citizens. With this abundance will come security and equal opportunity in life for all. In order to achieve this, science must be free from restrictions.

The only restriction holding it back is the Price System. The Price System uses science for business reasons but refuses to let it operate freely. Here is the cause of nine-tenths of our social problems today. Scientific gentlemen in our universities talk a great deal about how science must be free. But, they envision only the freedom to talk and exchange information. This is a picayunish freedom. Of what use to the people is it for scientists to be permitted to talk and exchange information in this age of restricted production, monopoly con-

trols, buried patents and international cartels. Hovering over all the bull sessions of scientists, like the shadow of Mephistopheles, hangs the Price System. It makes the rules. It says: 'You may go so far and no farther. When your science interferes with my artificial scarcity, that's where you stop.'

Technocracy has analyzed the Price System with the scientific method. It has also synthesized a new type of social system. This will be a non-Price System organized along technological lines and operated by scientific principles. In that social system, and in no other, can science ever achieve the maximum of freedom from restraint. This goes for the people too. It is the Price System that is the ages-old enemy of the higher aspirations of mankind. If we want to realize those dreams we dream when we dream of a better world,

we must abandon the Price System.

Here, then, is an outline of the qualifications of individuals who represent the social aspect of science in Technocracy. They can be acquired nowhere else but inside the Organization of Technocracy. They consist of a physical understanding of the Price System and a grasp of the scientific design of a new social system. That's all there is to it. Although one may have a string of degrees behind his name as long as the tail on Bobby Jones' kite, he is a complete social moron without it.

Yes, Technocracy needs plenty of representatives, but not from other fields. They must be schooled in the analysis and synthesis of Technocracy. Almost any one can do it. Remember, a scientist is as a scientist does. You, too, can be successful. Why not join Technocracy, and find out!

Deep In The Racial Stream

John Stevens (1749-1838) invented the multi-tubular, upright boiler. For many years he tried to convince an unsympathetic public that steam railroads would speed the country's development. He established the world's first steam ferry between Hoboken and New York in 1811. Finally, at the age of 76 to prove his claims, he built and demonstrated the first American steam locomotive in 1825. It ran on tracks around his estate. (*Invention News and Views*, August, 1946.)

'Railroads used 116 pounds of coal to move 1000 tons of freight and equipment one mile in 1945, a saving of 28 per cent when compared with 1921 when 162 pounds were required to perform the same service. The average capacity of a freight car is now 51 tons compared with 42.4 tons in 1920.' (*Chicago Daily News*, October 3, 1946.)

'We are now able to take a less derogatory view of man's nature. In the light of comparative psychology genuine altruism may be regarded, not as something concocted out of one's individual experience, but as a deep seat resting upon basic instincts that go far down in the animal kingdom. When parental care first appeared in the animal world it marked the origin of a great new epoch in the evolution of life. Reproduction is an essentially altruistic function in that it is primarily concerned, not with the welfare of the individual, but with that of others that arise from it. We may regard it as the basic altruistic activity from which all others are lineal descendants.—Dr. S. J. Holmes, University of California zoologist. (As quoted by the *New York Times*, July 14, 1946.)

The peanut is not a nut.

NOTICE

To Our Readers

If you will send in seven names to 'Great Lakes Technocrat,' together with a one dollar bill we will mail each one a sample copy of this issue; 7 for \$1.00.

Facts In A Nutshell

'If new-born chicks are fed only bacteria-free food, they die. Add some of the droppings of a hen, and the chicks thrive. They need bacteria to digest food.'—*Science Digest*, March 1946.

'An acre of corn takes from the soil approximately 90 pounds of nitrogen, 60 pounds of potassium and 12 pounds of phosphorus.'—*Science Digest*, March 1946.

In 1896 there were only 16 cars registered in the United States. Today, on the 50th Anniversary of the automotive industry, there are 25,500,000 cars.

'Geodetic indications point to the fact that there is a vast potential oil field in northern Alaska that can be made secure for the future national use.' From Report of House Appropriations Committee on the Navy Appropriation Bill, allotting \$9,600,000 for drilling in northern Alaska.

In 1921 there were 178 tire manufacturing plants in the country, says a Twentieth Century Fund study, while in 1937 there were only 46.

The electrical manufacturing industry, says a Twentieth Century Fund study, covers about 170 subdivisions and over 300,000 distinguishable products.

More than 90 percent of our investment in business plant and equipment during the decade 1931-1940 was for replacement purposes only, according to a Twentieth Century Fund survey.

Some Technocracy Section Addresses in Great Lakes Area

- 8040- 2—Box 356, Ambridge, Pa.
8040- 3—158 Brighton Ave., Rochester, Pa.
8041- 1—1613 East 51st St., Ashtabula, Ohio.
8141- 3—39 E. Market St., Akron, O.
8141- 4—2237 Front St., Cuyahoga Falls, Ohio.
8141- 7—P. O. Box 270, Barberton, O.
8141-14—P. O. Box 553, Kent, Ohio.
8141-15—10537 St. Claire Ave., Cleveland 8, Ohio.
8240- 1—207 N. Washington St., Galion, Ohio.
R. D. 8242—c/o John Reynolds, St. Clair, R. No. 2, Mich.
8341- 1—3242 Monroe St., Toledo 6, Ohio.
8342- 1—9108 Woodward Ave., Detroit 2, Mich.
8342- 2—112 N. Tasmania, Pontiac, Mich.
8343- 1—6717 N. Saginaw St., Flint 5, Mich.
8439- 1—37 E. Fifth St., Dayton 2, Ohio.
8741- 1—3178 N. Clark St., Chicago 14, Ill.
8743- 1—3546 N. Green Bay Ave., Milwaukee 12, Wis.
8844- 1—620 S. Broadway, Green Bay, Wis.
8844- 2—1011 W. College Ave., Appleton, Wis.
8844- 3—220½ High St., Neenah, Wis.
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R. D. 9737—4442 Bayley, Wichita 9, Kan.

TECHNOCRACY

NORTH AMERICA'S ONLY SOCIAL DYNAMIC

WHAT?

★ Technocracy is the only North American social movement with a North American program which has become widespread on this continent. It has no affiliation with any other organization, group or association either in North America or elsewhere.

★ The basic unit of Technocracy is the chartered Section consisting of a minimum of 25 members and running up to several hundred.

★ It is not a commercial organization or a political party; it has no financial subsidy or endowment and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$6.00 which are paid by the member to his local Section.

★ Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHERE?

★ There are units and members of Technocracy in almost every State in the U. S. and in all Provinces in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces.

★ Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHEN?

★ Technocracy originated in the winter of 1918-1919 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934, Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundations of the present nation-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHO?

★ Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life, Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this continent. Membership is open only to North American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective political office or active office in any political party.)

★ Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—as long as you are a patriotic North American—you are welcome in Technocracy.

**Great Lakes Technocrat,
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Reflections on Energy and Entropy

By Karl P. Schmidt

Chief Curator of Zoology, Chicago Natural History Museum
Reprinted From THE SCIENTIFIC MONTHLY, September, 1945

Energy

The flow of power in moving mass,
The waves of radiant heat and light,
And the electric sky-illuminating flash,
Are forms of energy.

The heat of moving molecule,
And in the recess of the atom,
Disclosed by modern chemistry,
The vast reserves of locked up force
Are also energy.

What is the law by which we unify
All this quicksilver of creation's veins?
These forms of energy exchange, but are not lost.
What is the Universe, and what are we,
Except creative energy?

Entropy

The clock runs down, the water cools,
And entropy forever grows.
Who shall wind or warm again,
Except with other energy?

The planetary systems are but clocks,
Their energy inexorably flowing
Outward from their cooling suns;
Which, cooling, keep the planets wound.

Does not the wider universe
Forever trend, by loss of heat,
Toward that last zero of outer space
When even helium will turn to snow?
If entropy's to be the end of all,
Who then shall wind us up again?

GREAT LAKES TECHNOCRAT

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WHOLE No. 85

Illustrating the Futility of Price System Methods of Operation; Interpreting the Trend of Events from the Social Aspects of Science; and Presenting the Specifications for Total Mobilization for Peace!

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1166 W. Georgia St.
Vancouver, B. C., Canada, 25c.
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Slogans Are Not Enough

Better Distribution For Better Living

By R. J. Kugelman, 12247-3

'Look Magazine' for December, 1946, had an article by Eric Johnston entitled 'More Production Means Better Living.' The emphasis throughout was placed upon production. In fact, the word appeared 38 times. But, distribution, an equally important function was not mentioned even once. This omission was obviously deliberate. In the flood of propaganda poured forth by the National Association of Manufacturers, the U. S. Chamber of Commerce and other organizations, plus a host of so-called economists, the key may change from time to time but the tune remains the same.

Every Man a Capitalist

REGARDLESS of how much production we have there will be but little increase in the average person's standard of living until we have a more efficient system of distribution than now exists. Our system of exchange did a fair job of distributing the limited production of our scarcity economy prior to 1919. Since then it has broken down under the impact of potential abundance and now does more to retard than to facilitate the flow of goods and services to consumers. This is clearly shown by the admission in the Look article, that: '... in the 40 years before World War II real earnings of industrial workers were approximately doubled.'

This statement means little since it gives no hint as to how low the real income was at the beginning of the 40 year period. If a starving man has a quarter loaf of bread and someone gives him another quarter of a loaf his real income has been raised 100 percent. The improvement in his lot consists in the fact that he can now starve at a slower rate.

If our Price System is so wonderful why has it taken four decades for a nation with over 50 percent of the world's resources to only double the standards of just one group of workers? If any other nation had only 61½

percent of the world's population but possessed over 50 percent of the world's resources and required 40 years to double the living standards of people our propagandists who uphold the Price System would turn on them with scorn instead of glorifying them.

After generations of Price System operations on this rich Continent why were one-third of our people still ill-fed, ill-housed and ill-clad? That damning indictment of our failure to increase living standards by much more indicates that the vaunted 'participating capitalism' referred to in the Look article is mostly hot air.

During the 1944 boom year the Senate Special Investigating Committee reported that, some: '... 20,000,00 people in the United States exist between subsistence and privation', or semi-pauperism. In the same year Surgeon General, Vice Admiral, Ross T. McIntire of the U. S. Navy revealed that: 'About 23,500,000 fellow Americans are suffering from chronic diseases and physical impairment because they cannot afford to pay the high fees demanded by private medical practitioners.' That plainly indicates that even the vast outpouring of a flood of easy money from taxpayers did not effect any proportionate increase in the distribution of goods and services.

Mr. Johnston's proposal to 'make every man a Capitalist,' is by no means a solution to any of our problems as it would merely compound the existing chaos. If we succeeded it would be equivalent to sentencing these budding entrepreneurs to failure in the first few years. In the super-boom year of 1946 over 175,000 small businesses gave up the struggle, according to the Department of Commerce. That is a daily average of almost 480 failures per day. Nearly thirty out of every hundred small business organizations fail in the first year and about two-thirds quit before the end of the fourth year.

Production For Waste

Our Price System, or 'free enterprise,' economy can be maintained only by the continual creation of artificial scarcity, because abundance destroys price.

Recently we have heard much about a supposed 'surplus' of 100,000,000 bushels of potatoes. Since, they have either rotted away or been deliberately destroyed all over our nation. Surplus does not mean that these 100,000,000 bushels were not needed by millions of Americans existing on sub-standard diets. It means that we had more potatoes than people had the money to pay for. Waste, misuse and destruction are necessary to maintain the outmoded price structure upon which our economy is based.

The Look article states: '... we can double our standard of living again in 20 years if we have peace and a reasonably stable economy.' Since we never had a stable economy in the 22 years of peace that preceded Pearl Harbor what is going to stabilize it now? All the Price System has to offer is more of the same type of operation that brought instability originally.

Is it possible to have either peace or a stable economy under 167,000 different government bodies, federal, state, county, local and city, when all of them overlap, duplicate and conflict with each other. Adding to that mess we have over 3,500,000 entrepreneurs constantly fighting each other or conniving against the General Welfare. This is not mentioning the numerous minority pressure groups fighting for special advantages.

Out Of Many—One

Even Roger Babson, who is a staunch defender of the Price System in an article in *Collier's* for March 4, 1933 entitled, 'Don't Let Them Kid You', admitted: '... the Technocrats are right in criticizing our seventeenth century system of giving eternal life to debt,'; and 'We cannot continue in a twentieth century mechanistic age with a seventeenth century financial system.' By those two admissions Mr. Babson practically nullified most of the article which was, chiefly, an adverse criticism of Technocracy.

If we want to avoid a severe depression which may develop into an economic cataclysm the theme song of the Price System, 'Produce and Destroy' must be quickly changed to 'Produce and Distribute' scientifically. In an integrated economy based on functional operations such as the Technate of North America all forms of scarcity would quickly disappear. Instead of requiring another 20 years to double our present standard of living it could easily be trebled, or quadrupled, in much less time.

In a Technate our thousands of conflicting governmental bodies would be replaced with a single government of functional control operated by a Continental board of governors. You will not elect these governors because you like their personal charm or their

persuasive radio voice. They will be chosen on the basis of their demonstrated ability, in some previous capacity, to perform their essential functions on the board. Here we have order replacing chaos.

Instead of millions of Americans living in wretched shacks unfit for human habitation there would be modern scientific housing far surpassing the best there is today. It would take only a few years to do this.

Today we have a totally inadequate rail and highway transportation system with its thousands of needless deaths every year. In a Technate we would soon have a smooth running, efficient system of rail and highway transportation far superior to the best there is now.

Today, our educational system is a shambles. Our schools are short over 60,000 teachers. Over 10,000 class rooms are closed entirely and other thousands are supervised by under-qualified personnel. In a Technate we would have a real educational system far superior to the best today. The quantity and quality of education would be raised to new heights. Students would travel all over North America, on vastly improved waterways, as a part of their education. They would visit and inspect industries and farms. Thus, they would learn at first hand what processes were being used. Each one would be in a better position to determine what vocation to pursue in later life. Occupational misfits and economic and social frustrations would be reduced to a minimum.

Thus, not only the coming generations would benefit greatly but the whole social system would be enriched by greater contributions to it. Today, we jump around blindly from job to job, trying to make more money so

as to 'get by' a little better. We spend a prodigious amount of effort in figuring 'angles' to 'beat the system.' It would be far simpler and easier to change the system than to chase around in insane circles. The job would only have to be done once.

'Sloganeering' or Engineering

In summarizing, Technocracy, Inc. states that in a Technate every man, woman and child would be assured of adequate food, clothing, housing, education and health protection; plus equal opportunity in life for all citizens and security from birth to death. This can be realized in far less than twenty years. These factors sum up to better distribution. This is inherent in the form of organization and operation of the Technate of North America. It spells better living for all.

N.A.M. and all the other successful chiselers under the Price System may be very adept at 'sloganeering.' But, slogans are not enough. What is needed is engineering, social engineering. Slogans solve no social problems under the Price System. Their purpose is to get your eyes off the problem.

North America needs a new way to live, a new design of social operations. The possibility for this exists in our present advanced stage of technological development. The social design for translating this possibility into reality also exists. Technocracy has the blueprint. The necessity for adopting this design will become more pressing in the immediate future.

Every North American owes it to himself to check up on Technocracy's analysis and synthesis. Join Technocracy and investigate it from the inside. Then help do something about it.

See America—Before It's Too Late

What Is It To You?

By Helen Spitler, 8342-1

'No man is an ILAND, intire of it selfe; everyman is a peece of the CONTINENT, a part of the MAINE, if a clod be washed away by the SEA, EUROPE is the lesse, as well as if a PROMONTORIE were, as well as if a MANNOR of thy FRIENDS or of THINE OWNE were; any mans DEATH diminishes ME, because I am involved in MANKINDE; and therefore never send to know for whom the BELL tolls; it tolls for thee.' (John Donne (1573-1613) English poet and preacher.)

Am I My Country's Keeper?

HAVE you ever seen a pine forest after it had been swept by fire, with its bare, charred trunks standing black against the sky? Have you ever seen an abandoned coal mine, topped by a ghost town that once flourished with life, activity, warmth? Have you ever seen a wheat field on the prairie after wind and hail had flattened it into a twisted mess; or a field of potatoes that had been dug up and left to freeze and rot on the ground.

There is no joy in these sights. But, there is something else. What is it to you?

Put yourself in the position of a Doctor who has a patient with a strange new malady. Connecting bands of tissue are drawn tight, shutting off circulation at many points in the patient's body. In the hand a metal coin is clasped so tightly that the fingers are turning blue, and useless. Suppose that medical history records no similar case. There is no precedent to follow in treatment. A scientific, workable plan is presented but

the Doctor cannot adopt it. What stands in his way? Lack of consent and cooperation by the patient's guardian.

There is no joy in a sight like this either. But, there is something else. What is it to you?

You are the guardian of North America. It, too, is sick unto death. Improper circulation is at fault. The flow lines of goods, through production and distribution, must be opened. Irreplaceable natural resources are wasting away, dangerously. Technocracy offers a solution. Will you, the guardian of this land, give your consent to open these vital flow lines?

What is it to you? It's what it is to your country. Only a matter of security or insecurity; special privileges or equal opportunity; abundance or scarcity; civilization or fascism; life or death; Science or Chaos. That's all!

Passive consent is worthless. Active assistance is imperative. Join Technocracy, the only organization with a scientific, workable design for the functional operation of the North American Continent.

'Since 1926 the total forest acreage planted in the United States totals less than 6,500,000 acres, and the record indicates that there are 75,000,000 acres of land on which tree planting is needed . . . But nine out of ten of the trees

needed have not been planted . . . At the average rate of planting of the last 20 years it would take 600 years to do the job. (From a recent statistical survey by the Forest Service quoted in the USDA Clip Sheet, March 23, 1947.)

Energy and the Development of Civilization

By Dr. Leslie A. White

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This talk is one of a series being given by American scientists on the New York Philharmonic Symphony program on Sunday afternoons. It was broadcast February 16, 1947. Dr. White is Professor of Anthropology at the University of Michigan.

HUMAN civilization is about one million years old. During this long course of time, civilization has grown from the level of our prehuman ancestors to the status in which we find it today. We know a great deal about the process of development of this civilization. Our knowledge of this development has come mainly from three sources: First, from archeological exploration of extinct civilizations—or of extinct cultures, to use the term preferred by anthropologists; second, from the study of primitive peoples still living in the modern world; and third, from investigations into the nature of man himself. On the basis of this total knowledge we are able to formulate a theory that will explain the growth of civilization thus far, will make clear to us the status of civilization as it exists today, and will, we hope, give us some indication of its probable course in the future.

Man, like all other animals, is engaged in a struggle for existence. This struggle takes place not only between man and his natural habitat, but within the human species itself—between tribes and nations. Civilization, or culture, is the means employed by man to carry on his struggle for survival.

Culture is made up of many things. It includes tools and weapons, customs and institutions, ceremonies and

rituals, art, science, philosophy, religion and so on. An essential feature of culture is its continuity; for a large part of the culture of one generation or age is passed on to the next. Culture is thus a continuous process which grows and develops in accordance with principles of its own. We are able to formulate the laws of this development. *And the basic law relates to energy.* (Italics ours)

All living organisms require energy. In order to maintain their existence, organisms must be able to control and to utilize energy in one form or another. In the human species, culture is the characteristic means of harnessing energy and of putting it to the service of man's needs. By means of tools and weapons, social organization and knowledge, man is able to harness the forces of nature and to put them to work for him. It follows, therefore, that as more and more energy is harnessed, the more highly developed does the culture become. When only a small amount of energy is controlled per capita, the culture will be low; man will be a savage or a barbarian. If, however, the amount of energy harnessed and put to work be great, the culture will be high.

We see therefore that civilization has developed because ways and means have been found from time to time

to increase the amount of energy per capita under man's control and at his disposal for culture building. *This is the fundamental law of the growth of civilization.* (Italics ours)

The first source of energy to be utilized in culture building was the human body. The amount of energy that can be obtained from human bodies is, of course, small. It is equivalent to only about one-tenth horsepower per adult male. When all its members were considered, including infants, the weak, and the aged, the earliest human society had no more than one-twentieth of one horsepower per capita. Naturally the culture, or civilization, built with these meager resources, was exceedingly low and crude. And mankind would have continued to live in this primitive condition indefinitely, had not a way been found to increase his energy resources—to harness and control more energy per capita.

The first really great step in cultural advance was taken when man learned to domesticate animals and to cultivate plants. This happened some twelve to twenty thousand years ago. Plants and animals are, of course, forms of energy—solar energy stored up in cellular form.

And when man harnessed these natural forces through animal husbandry and agriculture — especially agriculture—he greatly increased the energy resources at his disposal for culture building. As a consequence, there was a great increase in population; villages grew into cities, and tribes into nations and empires. More and more people were freed from the labor of food production as agriculture became more efficient and their time and talents were devoted to the arts, crafts, and professions. Architecture, metallurgy, writing, mathematics, astronomy, the fine arts, and philosophy

cialists. It is significant to note that after hundreds of thousand of years of slow progress in the Old Stone Ages, advanced rapidly in the hands of specivilization leaped forward and progressed rapidly following the introduction of the agricultural arts—in ancient Egypt, Mesopotamia, India, China, and, in the New World, in Mexico, Middle America, and Peru.

The second great step in cultural advance was taken only a century or two ago when solar energy was again harnessed, this time in the form of coal and oil by means of steam and internal combustion engines.

And today we are on the threshold of a third stage of cultural advance; that of harnessing the energy of the nucleus of the atom.

The social systems of mankind are closely related to their underlying technological systems—to the ways in which energy is harnessed and put to work. Thus, a people, who derive their subsistence wholly from hunting and gathering wild plant food, will have one type of social system. A pastoral or an agricultural people will each have another type, and an industrialized people still another type of social system. Social systems are always determined by the amount of energy harnessed per capita, and by the ways in which this energy is expended in gaining a living from nature and in waging offensive and defensive competition with neighboring systems.

The introduction of agriculture brought about a social revolution as well as a technological revolution. It destroyed the clan and tribal system of primitive peoples and instituted civil society with the political state. The recent technological revolution powered by coal and oil has likewise inaugurated a series of great social changes that has not yet run its course. But today we are confronted with this entirely new development:

atomic energy. The age-old struggle to conquer and subdue the forces of nature has at last harnessed a power so great as to become a threat to man's existence, at least as a civilized being.

At the same time, atomic energy offers a promise of peace and abundance in the ages to follow.

The crucial question today is: how will the vast powers of atomic energy be used? This brings us again to the two sides of man's struggle for existence. On the one hand he is struggling with the forces of nature, trying to subdue them and to bend them to his use. On the other hand, he is struggling with his fellow men for the possession of the resources of nature.

It is on this stage that the drama of atomic energy will be enacted. We

are told by physicists that within a decade or so it will lie within the power of warring nations to destroy much, if not most, of the civilized world. If this should take place, civilization will unquestionably regress to earlier and lower levels of development.

But social evolution has moved forward with technological advance in the past and it may do so again.

It is possible that the military use of atomic energy may break down, once and for all, the political barriers that now divide the human race and set man against man—and it is possible that this may be done without crippling civilization. If this should be the outcome, mankind can at least become united in a common purpose and in common endeavor: the Good Life for All!

Consolidate the Rackets

For the third time a great wave of corporate mergers is sweeping through the American Price System economy. Around the turn of the century 200 corporations with billions in capitalization consolidated. During the 1920's the second wave came along. In 1929 alone 1245 companies consolidated. Then came the depression which slowed down the trend. After that came the war which provided the stimulus for the present wave. Since 1940 large corporations have gobbled up 1800 smaller companies. More than one-third of the mergers have taken place in industries which have hitherto been dominated by small enterprises, notably food, textiles and non-electrical machinery. About 60 percent of the mergers have been horizontal, that is, mergers of firms producing similar products. Some 17 percent have been vertical, that is, purchase of suppliers. The first act of political futility against mergers was perpetrated in 1890 in the Sherman Anti-Trust Act. Since then Congress has sweated out 60 other futile laws against

mergers. In releasing the report from which the above data are quoted the Federal Trade Commission stated: 'In our opinion this growing concentration of economic power through mergers is today's greatest challenge to the American theory of competitive enterprise, and to the American way of life. Large corporate consolidations lead inevitably to cartel organizations, in America as well as in Europe. Private supergovernment in industry leads almost inevitably to political super-government.'

'Only one-tenth of 1 percent of the corporations in this country own more than half—or 52 percent—of all corporate assets. In 20 states in this country there are firms so large that the census bureau is not allowed to make public production figures for the entire state since this would be informing the public of what is considered the private business of an individual firm.' (*Chicago Sun*, March 15, 1947.)

Science or Philosophy?

This Time It's Real!

By Maude Bryant, 12247-3

'Most scientists, as well as other intelligent citizens, would agree that the great problems of our time are not those of the control of nature but of the stability and adequacy of the social order . . . To a very substantial and rapidly increasing degree, the actual functioning of our social order is dependent on a social technology which is in fact applied social science . . . The scientific point of view is probably the greatest hope of modern society and if this hope is to be realized, it cannot be confined to one sector of the total field of science.' (Talcott Parsons, Chairman of the Department of Social Relations at Harvard University, in an article in the 'Bulletin of the Atomic Scientists, January, 1947).

Philosophy Is a 'What Is It?'

PHILOSOPHY arises from that never-ending desire of mankind to establish the supremacy of knowledge above the possibility of frustration. That eternal effort to cope with the unknown, that endeavor to establish certainty has not been entirely futile. Out of philosophy, somewhere or other along the line, developed the scientific method, that method which has given mankind a wealth of recorded, organized knowledge, which is Science.

The opinions of scientists on non-scientific subjects are no better than those of the public-at-large, for an opinion remains an opinion no matter who utters it. Scientists, however, have been trained to critically examine beliefs and to discard those beliefs which conflict with fact. At this time it is important that the average man do some thinking about the necessity for following the leadership of men properly trained in the social aspect of science, instead of blindly following the leadership of philosophical confusion and uncertainty.

There is much editorial pessimism that the human race will not see in time the great need for the right kind of leadership in order to realize the abundant life, potentially available in

this Technological Age. Commentators state that it appears we will concentrate a large portion of our science on the art of self-destruction. By following the political greed and economic mismanagement of Price System leadership, some crackpot may touch the wrong button and modern civilization could cease to exist in about one hour, the time it takes a rocket to make a six thousand mile trip.

Some scientists frankly state there are no technical barriers to the complete destruction of our major cities on the North American continent and are agreed that such a war is a definite possibility in about ten years.

Technocrats are agreed that the time is overdue for a major social change. The time has come to abandon the incompetent Price System and undertake to form a scientifically controlled Continental entity, with the preservation and advancement of civilization as its goal.

Let us examine the line of demarcation between the philosophical approach and its Price System leadership; and the scientific social approach of our Continental leadership in a Technate. Out of the compilation of facts, and the application of scientific findings, came Technology, that

vast, integrated productive mechanism.

Except in the method of their work, men of science are no different from any other men. Their hopes, their dreams, their emotions, are common to all men. They differ in insisting that science deal with facts and phenomena which are subject to experimental verification. They are part of a group of highly trained, clear thinking people, and include engineers, technicians, etc. Some scientists try to keep their thinking on metaphysics, religion, politics and philosophy separate from their science. Many do not. Such things are matters of opinion and belief and are not subject to the experimental method used in their workaday world.

Science Is a Method

Science is knowledge systematized. It deals with verifiable facts. It is a method of inquiry, investigating the nature and properties of material bodies and natural phenomena. Social science is an investigation into the physical aspects of social life. There is only one social science. It is called Technocracy. Technocracy invites all to investigate its program, its verifiable facts, its blueprints for social change.

For generations we Americans have strolled along philisophy's path. Suddenly, this has widened into a scientific highway, leading us halfway across the bridge of technological achievement. Before us we find stretched a barrier, a ribbon as it were, effectively serving to separate us from the realization of the heritage we can plainly see beyond that ribbon barrier. Clinging to the incompetent Price System, having its foundations in philisophy, we refuse to break the ribbon barrier, for to go on we must use the necessary exactness of science in the social field.

The line of demarcation is clear:

Philosophy is the dream; Science is the fulfillment. Between them lies the antiquated Price System, a barrier to our future.

Venturing a look backward, we see that the progression of centuries has swept away the highway of philosophical concepts on which we have been traveling. Whether we like it or not, we face a technological future. Technology has propelled us into the future. We find we have arrived at a bewildering state of social confusion, which permits no retrogression, no going back over the philosophical approach.

Urging us to cut this flimsy barrier and to cross forward into abundance is Technocracy. The moment we cut the ribbon, we may move as a united people into the NEW AMERICA.

Let us take a look beyond the ribbon and we see visions; they are physical; they are measurable; they are verifiable and they are tangible. Accepting Technocracy's invitation to cut the ribbon and follow the leadership of Science, we can investigate the other end of this bridge. We cross over and find that the roadway which Technocracy points out leads away in an upward trend toward still more staggering achievements of Science.

We'll find ourselves in a new age, in which machines and devices do the precision work required by society. Men and women will touch levers, buttons, etc., but their labor lies in knowing when, where, how and what to touch. The results will be sure, accurate, vast. We are now in an age where technology does in rhythmic precision what men and women have dreamed of doing for thousands of years. We are spellbound and incredulous, for this new way of life has developed so swiftly that we have scarcely seen its approach. We pinch ourselves to see if we are still dreaming.

The current of extraneous energy which has swept our production to heights hitherto only dreamed of by philosophy, overwhelms our ancient Price System mechanism of distribution. Our political and business leadership, frightened by this economic bogey, are picayunishly seeking to strengthen the barrier which holds us back.

Visualize Technocracy as a streamlined vehicle, providing transportation to North America's future Technate. If we have the good sense to step aboard and let the operator with the 'know-how' steer our speedy vehicle safely to where knowledge can function without being flagged down by monetary influence, we will arrive safely. Let us have courage to follow Science, and the method that has provided the technology with which we are surrounded.

We are being forced by the urgency of events to give heed to political inadequacy. We are agreed that the time is over-ripe for social change,

if mankind is to survive. We find that the way of politics, born of philosophical concepts, does not conform to scientific ethics or technological procedure. Their ideological processes are not in conformity with the General Welfare as a whole.

Regardless of all arguments to the contrary, we, as a people, are approaching the necessity of making a decision very soon. It is plain to see that energy, the prime mover behind us, like a great flow of lava, cannot be stopped by the human will. We are being herded, reluctantly but willy-nilly, across this imposing bridge, which Science and Technology have created. We are now at the dawn of an era where mortal man, except in dreams, has never before dared to venture.

This time it's real! We urge all Americans to join Technocracy. Help to put the social aspect of Science into operation. You have a new world to gain and, except for an old world that is already dying, you have nothing to lose!



'This Little Pig Went to Market'

'What have you gentlemen done with my child? He was conceived as a potent instrumentality for culture, fine music, the uplifting of America's mass intelligence. You have debased this child, you have sent him out on the streets in rags of ragtime, tatters of jive and boogie woogie, to collect money from all and sundry for hubba, hubba and audio jitterbug. You have made of him a laughing stock to intelligence, surely a stench in the nostrils of the gods of the ionosphere; you have cut time into tiny cublets, called spots (*more rightly stains*), where-with the occasional fine program is periodically smeared with impudent insistence to buy or try.

'Murder mysteries rule the waves by night and children are rendered psychopathic by your bed time stories. This child of mine, now 30 years in age, has been resolutely kept to the average intelligence of 13 years. Its national intelligence is maintained moronic, as though you and your sponsors believe the majority of listeners have only moronic minds. Nay, the curse of his commercials has grown consistently more cursed, year by year . . . '

(Extracts from a letter by Lee DeForest, inventor of the three element audion tube, the first grid radio tube, that made modern radio possible, in *Radio-Craft*, March, 1947.)

Be Your Century!

By Miriam Allen de Ford

Reprinted by permission from *Your Mind: Psychology Digest*, February, 1947

The author of this article is a well-known writer, who has had many stories and articles published. She is not a Technocrat. 'Great Lakes Technocrat' is, however, happy to reprint this article because of its clarity and simplicity of presentation and because it is in intellectual accord with the facts of this Power Age, in which we live.

THE famous Dr. Thomas Arnold of Rugby, father of Matthew Arnold, died in an attack of angina pectoris, in 1842, because by the time a servant could summon his physician it was too late for treatment. Yet prompt action will nearly always bring a patient through an angina attack. There must be millions of men and women who died before their time in the days before the telephone was invented.

I remember the startling day when I discovered my roof blazing. I ran downstairs and phoned the fire department, and in three minutes by the clock the engine was at the house and busy extinguishing the fire. Several years before that, I was a guest in a house in the country which had no telephone. When the chimney caught fire, my host, an elderly man in poor health, had to climb out on a steep, sloping roof with buckets of water while I ran half a mile to the nearest neighbor to ask for assistance. It was by the merest chance that the house did not burn down.

This is not an advertisement for the telephone company. I instance it only as one of the most obvious of the mechanical helpers by which we are surrounded and which we take for granted.

And we forget how very fast they have come. If it is three generations from shirt-sleeves to shirt-sleeves, it is also, and literally, three genera-

tions, from oxcarts to rocket planes. The speed with which material inventions have piled up on us, who are mechanically the heirs of all the ages, extends to the most trivial household equipment. My grandmother told me once that when she was a little girl in school in Philadelphia, a boy brought and displayed during recess some mysterious objects—little splinters of wood, which, when he rubbed them on a brick, burst into flame. They were the first matches she had ever seen.

We have had more material progress in the past twenty years than in the two hundred preceding, and more in the past century than in the preceding millennium. Any person who has reached middle age can remember very clearly when the ordinary light was a Welsbach gas burner, when bathtubs were made of lead or tin with a wooden rim, when cooking was a matter of course accomplished on coal stoves, and ironing was done with a sad-iron that had to be kept hot on the fire.

In other words, it is commonplace to remark that we live in an era more advanced materially than any this planet has ever seen. It was a commonplace even before we entered the Atomic Age, little more than a year ago. But what, one wonders, is the use of living materially in the twentieth century if, like millions of civilized people—even civilized young

people—we live economically in the nineteenth century, politically in the eighteenth, religiously in the seventeenth—and emotionally in about the two hundredth century B.C.?

Unless our minds are at least as modern in their viewpoint as our bodies in their surroundings, we are not synthesized personalities at all, but boiling cauldrons of antagonistic ingredients guaranteed to give acute indigestion to anyone who must swallow the mess.

There are of course in every country many persons who live mentally and emotionally not in the twentieth, but in the twenty-first century or later. They are the vanguard of humanity, the "social anticipations." But they are outnumbered millions to one by the rearguard, what an acquaintance of mine calls "the hangovers." And what the social anticipations usually receive is persecution, suppression—and posthumous admiration. That is a deplorable human tendency which has dotted history with martyrs.

It can hardly be expected, naturally, that all or many of us can be ahead of the times in which we are born; though we must have some forward-lookers and pointers if we are to progress—and unfortunately it is apparently inevitable also that we should make their lives a burden while they live and surround them with glory after they have been dead a sufficiently long time. But we can at least make a conscious effort to increase the number of persons who have minds contemporaneous with their bodies, their clothes, and their furniture. We can begin by examining ourselves and seeing how far we fall behind our times.

I am thinking of a number of such spotty personalities whom I have known. There is Horace French, who is most enlightened and tolerant in

religion, whose political views are broad, who is self-controlled and urbane, yet who at home plays the heavy father and the master-of-my-own-house - and - pocketbook husband. There is Marston Green, clever, witty, keen, who yet believes and argues that only "Nordics" are really human, and that all the rest of us belong to some sub-species which may be treated kindly but must be given no liberty or power. There is my old professor of psychology, who was fully acquainted with the most modern schools and techniques, yet who was himself a hide-bound Calvinist of the most Puritanical persuasion, and who once secured the expulsion of a student for a breach of convention obviously due to a psychological quirk needing therapeutics, not disgrace, for its cure. There is Mary Minton, who prides herself on reading all the latest books and seeing all the latest movies, yet will not walk under a ladder or sit thirteen at table, and honestly believes the constellations are interested in her welfare.

Not one of these cases is that of a person in harmony with his environment; every one of them lives materially in the twentieth century, but mentally and emotionally in some past period beyond which the best thought of humanity has long ago advanced.

Fantastic romances have been written of the sudden resurrection, by some imagined means, of long-dead men and women—ancient Egyptians, Periclean Greeks, men of Cro-Magnon. Well, if by some necromancy such a man of the past could come to life again in the fifth decade of the twentieth century, he would indeed be a bewildered stranger so far as every last detail of material being was concerned; he would have to learn the mechanics of living again from the ground up. But once he had acquired means of communication, I am afraid

he would feel quite at home with many of his new companions as far as their social, economic, political, and theological ideas were made known to him—and he would perhaps find himself quite superior to many of them in matters of self-discipline, tolerance, and humanitarianism. A *truly* civilized community is one in which, if such a traveler from the far past could conceivably appear, he would be as hopelessly outdistanced in mental concepts as in the practical mechanics of life.

The means to attain real and complete contemporaneity is a process of re-education, above all of self-re-education. But it depends first of all on our awareness of our present failure. We could not be comfortable in the physical world of our grandparents, and we ought not to be; it is not our world. It is up to us to ask ourselves, in every attitude and opinion and emotion, whether we are being comfortable in the mental at-

mosphere which surrounded that world.

Evolution may take place backward as well as forward; actual progress is always conscious, so far as human affairs are concerned. We must—each of us parts which go to make up the whole—strive to “be our century” in every aspect of our lives. If we do not, we may (with or without benefit of the atom bomb) prepare, or even witness, one of those cataclysmic reversions which the world has seen before; and the wholeness that is necessary to social adjustment may come about in the worst possible way for human welfare—by bringing the twenty-first century full circle back to the standards and attitudes of the Dark Ages.

We must live up to our telephones and radios and airplanes and laboratories, or we may find ourselves again in a material world better adapted than this modern one to our atavistic minds and emotions.

One World?

A census of the chief delegates of 45 governments to UN (there are 55 members) reveals that ‘40 percent of them are Roman Catholics, 20 percent Protestant, 15 percent Moslem, and 25 percent Orthodox Christian, Buddhist, Brahman, Non-believers and miscellaneous.’ (*United Nations World*, February, 1947.)

‘Top leaders of the Koumintang in China are reported to have cashed in American banks \$500,000,000 in “black market” gains, usually earned from control over distribution of UNNRA and surplus American war goods. Greek right wing leaders are estimated to have \$50,000,000 of the same type of funds deposited in American banks.’ (*Christian Science Monitor*, March 21, 1947.)

‘The economic illiteracy of our people

has been fostered by the demagogic politician’s thirst for power. He has been completely brazen and shameless in fostering false theories of economics. He will do anything and promise anything for votes. By twisted reasoning, by the nurturing of prejudices, by fantastic promises, by false accusations, the political demagogue leads the people deeper into the black night of ignorance for the sake of his brief appearance on the political stage. He is a most dangerous type of fifth columnist, ready to destroy for his own belief and tainted glory, the well being of the many.’—Ody H. Lamborn, president of the National Association of Commodity Exchanges and Allied Trades Inc. in a talk to the Purchasing Agents Association of Cleveland, October 17, 1946. (As reported in the *Chicago Daily News*, October 18, 1946.)

Logistics of Social Change

Prepare For My Coming!

By Geo. B. Connor, MAL

We Americans are beset by a social impasse which is warping the life of every individual, rich or poor. In an atmosphere of confusion we are avoiding our social responsibility in the same manner the Chinese frightened away their devils—with loud noises and paper decoys. The difference is that in our case the paper decoys are debt certificates; and the loud noises are the blah that is dinned out from press, pulpit, radio, political rostrums, counting room and business house. If a social catastrophe of major proportions is to be averted, we must embark upon a decidedly different course of social procedure than any which has previously been pursued.

'None So Blind—'

FOR 70 Centuries of recorded Price System history, men have delegated the privilege of social control to the priest, the politician, the prince and the profiteer. The best result this string of incompetents has been able to achieve has left its stigma upon humanity in the form of beliefs, ignorance, warfare, waste, poverty, crime, fear, tradition worship, race discrimination and social stupidity. The last named is perhaps the acme of infamous social perpetrations. It has created a barrier of prejudice that is well nigh impenetrable for those who are qualified by ability and training to make constructive improvements in the arrangement of social, cultural and material conditions under which men must live. If your better judgment is in rebellion against your past conditioning and the pressure of your immediate personal entanglements, then you may ask: 'What about it?'

An impasse can be vanquished only by knowledge. Knowledge is based upon understanding. And understanding comes by the rigorous road of factual study; by careful consideration, wholly unfettered with either prejudice or emotional friction. This is something often preached about

but seldom practiced. Technocracy would like to bring to every American an understanding of the unique problem confronting this Continental area. It can only be done with your assistance.

Our social difficulties are due almost entirely to the failure of our present, obsolete method of distribution, the Price System. We are so engrossed with the many issues arising from this failure, strikes, fluctuating prices, business uncertainty, crime, poverty, political skullduggery, etc., that we take no serious notice of the basic factor that is the cause of the whole disturbance. We are always on hand too late with too little. We lock the barn after the horse is stolen. We prepare for war after the enemy has struck. We start conservation after the soil is gone. It would seem, by this evidence, that we detest anticipation, but that is not entirely the case. Preparation costs money. That is the point of major interference. The barrier to correct social action is Price. Now that the System of Price itself is disintegrating before our very eyes, all we can think to do is to bolster up the carcass. We try to keep alive a social institution which has brought nothing but misery and discord to humanity since

the day of its inception. Dare we ANTICIPATE its end? Dare we PREPARE for the event of its demise?

Far as Human Eye Could See!

Emphatically YES! It is the one sensible thing to do. When a method of distribution is no longer capable of performing its function, another must be prepared to take its place. *That has already been done!* The new one stands waiting for your approval. It is ready for installation at any time. *Technocracy* has the design.

Technocracy is North America's only collective, social insurance policy. The premiums must be met to keep it in effect for the day of its necessity. Those premiums are your attention, your understanding and your cooperation. If you are not a member of Technocracy, you are helping to void the chance of abundance for America. You are doubling the difficulty of social transition. You are approaching the inevitable with wishful thinking. Your inactivity is adding fuel to the fires of internal conflict. It is imperative to your future and to our future that you investigate this situation. Otherwise, we don't care a rap how you act or what you think about.

Technology has made possible an abundance of everything for the people of North America. The Price System is the sole interference preventing that abundance from reaching those who can take it into usage, all of us! **THE DISTRIBUTION OF ABUNDANCE IS FUNDAMENTAL!** Upon its successful accomplishment rests the future of our civilization. Once we can persuade ourselves to bring our intelligence instead of our emotions to bear upon this subject, we cannot help discovering that fact.

The distribution of abundance is new in the annals of human history.

Being a new problem, it demands an entirely new set of concepts for its solution. That means PREPARATION. That means putting a definite end to our procrastination. The distribution of abundance lies outside the orbit of political, financial or ecclesiastical control concepts, either of the past or present. It is a technical problem, and as such falls automatically within the domain of science, and upon the agenda of the technologist and the social engineer. It is a problem endemic to North America and the solution must likewise be a native product. No foreign influence or ideology is desired or needed, and none need be tolerated. Only an American solution can fit the American problem. Nothing less can be considered adequate. Nothing less will be found acceptable to the people of this Continent.

Technocracy fulfills every specification necessary for the job at hand. Technocracy has correlated all available knowledge pertinent to the American social dilemma. Technocracy has recognized the nature of the problem; has anticipated the course of events; has devised the only solution which can successfully be applied. Technocracy is American through and through, and is preparing to meet the emergency when it arises. Technocracy rings the bell on every count. Can you name another Organization or movement on American soil that does the same? If you can't then how about a helping hand? Not next week, or next month, or next year—but NOW!

'A sign on a cage in the Buffalo, N. Y. zoo reads as follows: "Bald Eagle—range: the whole of North America. Never fishes for himself as long as he can rob the more skillful and industrious fish hawk. The bald eagle is our national emblem."' (Fillers, March, 1947).

"What a Good Boy Am I"

The People versus Business

By Sgt. Scoop, R.D. 8943

'You are old, Father William,' the young man said,
'And your hair has become very white;
And yet you incessantly stand on your head—
Do you think, at your age, it is right?'

'In my youth,' Father William replied to his son,
'I feared it might injure the brain;
But, now that I'm perfectly sure I have none,
Why, I do it again and again.'

(Lewis Carrol in 'Alice In Wonderland')

Good Business Is Good Waste

IT IS axiomatic that among mortals hindsight is more accurate than foresight. Hindsight cannot be laughed away, however, for what we see through it may be what we need to make accurate predictions of things to come.

Unfortunately, there are multitudes in America today who have spent so little time in looking back upon the record of business techniques that they cannot realize what fate will befall America if 'good business' holds sway much longer.

We don't need to be in a military war to be actively patriotic. Now is an ideal time. A little looking backward will make it obvious that business success and patriotism are incompatible. Let's look at the record for the past few months.

A simple and daily example of the unpatriotic waste that is the result of good business can be seen in almost every magazine and newspaper. Business made flagrant waste of newsprint, press time, labor, brains and other necessities in putting out its institutional advertising during the war.

These expenditures were made by companies that had no goods to sell.

They were merely keeping their names before the public. They were doing it with the public's money. In spite of abundant evidence that these companies were profiteering from the war, the public blindly accepted mass advertising of the great producers as a patriotic activity. In fact, the public paid for the advertisements in which the advertiser unhesitatingly told how patriotic he was and how he was winning the war.

Testimony in the widely discussed Garsson munitions combine inquiry showed how manipulating individuals siphoned off the people's money, with no compensating service rendered. The Congressional investigations brought to light lucrative dealings of such self-styled 'public relations counsels' as Benjamin F. Fields, Glenn A. Dies and John F. Brunner. These, with others of course, were shown to have been 'milking' the too-cooperative War Assets Administration.

However, the profits of some individuals is not the serious part of the issue of business versus national patriotism. Profiteering deals, multiplied in high and low places, create and maintain shortages, for example, of houses for Veterans. They cause

breakdowns in supply lines to socially useful functions: health, sanitation, housing.

The August 29, 1946, issue of *News-week* presented cases in point. (That was last year, but some of you readers may still be houseless because of what happened then.) At Monmouth, N. J., quantities of NEW material was going into a race track structure. Not so far away, at Jamaica, N. Y., war veterans were getting barracks buildings for homes for themselves and families.

At a non-essential week-end resort project at Lake Arrowhead, California, scarce lumber was piled high. It is a safe bet that all Californians who fought and suffered during the war were not and are not adequately housed.

The Sleeper Stirs

In some places the public reacted in its own interest, a healthy sign, at least. In Baltimore, a \$5,000,000 project was halted only after veterans objected. In Boston, the American Legion protested the erection of an elaborate dance hall called "The Meadows" near suburban Wellesley. Yet in cities throughout the nation, the first postwar year saw huge show-rooms being built for cars to arrive in the distant future, new department stores, non-residential commercial buildings of all kinds, and, so that families wouldn't have to drink in attic rooms, plenty of new bars.

Many reasons, or excuses, are given by business for the delayed building of housing units. At best, they all stem from one basic fact: What is good for business is NOT good for you.

Only government of the people, for the people and by the people can act in behalf of the people in nationwide crises either in war or in peace.

Financial gifts, grants, loans to veterans or builders, provide no American solution. The only American solution is the direct one: conscription of all resources of the nation and the channelizing of them to national service without business interference. Only then will we have a secure nation, well fed, well housed, and well nourished.

In spite of the high pressure selling job of business interests, the people are waking up. Business leadership is quite aware of this and does not rest easily in the knowledge.

The August 1946 issue of *Forbes* contains the following statements in an editorial entitled 'A Challenge to Maagement.'

Whether we like it or not, big business today is on trial . . . in the minds of millions of Americans big business has still to justify itself, its motives and its aims. For example, one recent survey reveals the startling fact that more than 50% of the public are in favor of the Government determining what is a fair profit for management Business today faces the most important job in its history It must show the public clearly just what it is doing in the way of providing full employment, improving labor relations, raising living standards

Not only is big business on trial, as stated by *Forbes*, but all business, as a technique of operation, is on trial. It is becoming increasingly clear to Americans that business has not been responsible for America's greatness. Business methods were inherited from a not-so-great Europe. It was a combination of fortuitous circumstances with a sturdy people that brought us to our present heights. Business is but a handicap in the people's efforts to use our great endowments for our real benefit.

The people are waking up. They

know that what is good for business is NOT good for them.

It might even come to pass shortly that the people of America may decide to kick business out of the picture entirely. Lord knows it would be a big relief. We could really start going places and doing things for the General Welfare then.

The proper place for business is in

the textbooks on historical economics, and in the museums. As a way of life in this Power Age it only clutters up the road to abundance, security and equal opportunity for all citizens.

Science is the Sun of the modern world. Technology, its stalwart offspring is the only methodology by which to operate today. Let's educate, organize, operate and prosper.

Agrotechnology - On the Way - Hurray!

'The average farm for the country as a whole is now 50 acres larger than 25 years ago, 20 acres larger than 20 years ago . . . In Oklahoma, a state settled almost entirely according to the original 160-acre homestead unit, the average farm has increased from 166 acres in 1920 to 220 acres in 1945 . . . Today, over half the farm land in the country is in farms of over 500 acres, compared to only a third in 1920. And farms over 1,000 acres now account for over 40 percent of the farm land compared with less than a fourth 25 years ago. Considering that the 1945 Census reports 1.1 billion acres in farms, 40 percent of it—or close to 460,000,000 acres—is a good chunk of land to be in units of over 1,000 acres. Outside the 11 Western States there are 200,000,000 acres in these large units.

' . . . Nearly 10 percent of the farms in the West are now over 1,000 acres and account for 80 percent of the farm land in the region . . . But in the Midwest, where virtually no public lands have been available for a good many years, a fifth of the farm land is in farms of over 1,000 acres and many of them are closer to 5,000 acres in size than 1,000. The number of these farms is now a third more than in 1920. The South, too, has seen a substantial increase in these large farms—40 percent in the past quarter century—which now

account for about 15 percent of the farm land in the region . . . In contrast to the increases in these very large farms is the decrease in farms from 10 to 500 acres in size. In 1920 these farms made up two-thirds of all farm land, today only half . . . The moderate size farm ranging from 100 to 260 acres . . . has been steadily declining as they have given way to larger commercial units . . . While the larger farms have become mechanized at a rapid clip, these smaller units have had to do so as well in order to successfully compete. In a great many cases this has necessitated the operation of larger acreages to pay for steadily increasing outlays for machinery. For example, the number of 100- to 180-acre farms decreased by over 110,000 during the war.

'The Census would show an even more pronounced trend toward larger farms if the very small units, those under 10 acres and for the most part not much more than rural residences for city workers, were not included in the total . . . Although they account for 10 percent of all now compared to 5 percent a quarter century ago, they still take up less than 1 percent of the land in farms . . . the present total of all farms of some 5,860,000 units in the country is 600,000 less than in 1920, despite the 186,000,000-acre increase in land in farms.' (*The Agricultural Situation* January, 1947.)

Oh! Those Terrible Kids!

Juvenile Delinquency or Price System Delinquency

By W. E. Walters, 8342-1

'There is general agreement that in the urban areas slums and sub-standard houses breed crime and delinquency. Parents do not live in them from choice. The rate of delinquency in such areas is sometimes ten times the general average throughout a city. Society is at fault for these conditions. Only society can purge itself of this fault. ... Delinquency is also caused by the frustrations and insecurities which are the result of our economic system. ... It teaches all our children that equality is the cardinal principle of our American life. Equal opportunity is open to all. A large segment of the population of any metropolitan city soon finds out that this is so only in theory. ... The frustration of the hopes and dreams of these youths leads to aggressive conduct, rebellion and hostility. It is just as much a crime to steal a person's birthright to equal opportunity as it is to steal an automobile.' (Nochem S. Winnet, Judge of the Municipal Court of Philadelphia and Secretary of the Pennsylvania Council of Juvenile Court Judges, in an article in the 'New York Times Magazine,' February 16, 1947.)

'Orphans of The Storm'

ADVANCING technology is creating new conditions by the use of more non-human energy in more automatic machinery. New conditions tend to induce new inclinations, habits and behavior patterns. Youth is more sensitive to these changes. They are the natural pioneers, flexible, impressionable and less fearful of social change. Today's social results are unsatisfactory to the young. A dynamic environment under static controls is tending to compel youth to repudiate all social regulation. Who can blame him?

In the midst of a technologically potential plenty, we try to live with a hodgepodge of instability, unemployment, insecurity, malnutrition, slum housing, artificially maintained poverty, physical and mental maladies, and juvenile delinquency. The protesting kids have ganged up on us in everything from minor mischief to cold-blooded murder. It is just one of many symptoms of the system's unworkability. Do not blame them for a normal reaction to the environment.

You cannot blame the engineer; he is only working by the day and the results of his work are not his business.

We do not like to admit it but, under this culture of conspiracy we call the Price System, the home, the school, the church, the child's welfare association or the law enforcing officers cannot provide the conditions which will enable the young people to make a success of their lives, or cause them to be very much different from what they now are. Juvenile delinquency is attracting an undue amount of attention. Most every day incidents are reported in the press. There is no point in blaming the several institutions we have depended on in the past for not doing what they are totally incapable of doing anyway without revamping the entire system of social controls.

Business, financial, labor and ecclesiastical organizations emotionalize conditions, but this helps only to feed the fires of disorderly conduct. Disorderly conduct is an outlet for social frustration. It often explodes in culpable action beyond the capacity of

any Price System organization to nullify. Every citizen shares the responsibility of helping to provide the environmental conditions and the guidance of our youth in the correct channelization of social behavior. Training to do your bit to provide an environment which is fit to grow up in is a wonderfully diverting pastime. Try it sometime.

No boy or girl is born bad. They get that way through exposure to this manure pile culture of Price. It is our collective responsibility for permitting it to exist so long. The Price System keeps most of us so busy chiseling a living with our own little two-bit rackets in our working time, and so engrossed trying to escape from the smell of it in our leisure time that we have no time, nor inclination, to indulge in collective, intelligent action ever for ourselves, let alone our children. It is just too bad, however, that we have to turn the children into scapegoats to carry the sins of the people as a whole.

I See By The Papers

The number and the seriousness of crimes committed by juveniles are increasing. Press reports tell of an expanding trend in this direction. The Federal Bureau of Investigation indicates the growing magnitude of the problem. City officials report that when they rent a civic hall to high school students they must deal with the cost of smashed plumbing, ripped out railings, damaged furniture, etc. Petty thievery is common and continuous. No parked bicycle is safe for a minute. Purse snatching, shop lifting, hold-ups with fire arms, rape, bank robbery and kidnapping, in fact the whole catalogue of crimes is charged against the kids. Twenty-one percent of all crimes are youthful crimes, and it is getting worse. A fifteen year old boy gets a twenty

year sentence for the hit and run killing of a little girl. He was fleeing in a stolen car. An adopted son kills his stepmother because she scolds him. A seventeen-year-old boy murdered a detective who was trying to arrest him for burglary. A police officer was shot by his sixteen-year-old son because he objected to his criminal companions. Two fifteen-year-old boys killed a policeman who was trying to befriend them. A thirteen-year-old girl shot her father when he surprised her in an auto camp with a fifteen-year-old boy friend. Fourteen- to seventeen-year-olds are using homemade guns, service revolvers, machine guns, and hand grenades in street fights. It is really getting serious. The background conditioning and the environment will probably produce more serious conditions. If this keeps up, the juveniles will be just as bad as their elders!

The cure for juvenile delinquency is but one of the minor details in the cure of a whole series of problems, of which this one, serious as it may be, is only peanuts. The only solution to this or any other social problem that has the slightest probability of success is the one proposed by Technocracy, a governance of function for the service of the citizen. This plan offers a collective solution to millions of problems that the people are trying to solve without the slightest probability of finding an answer, as long as they are treated as individual problems. North America as a whole really has only one problem. When the pressure becomes great enough to induce us to put our heads together under competent direction, we will find that collectively we have only one major problem. In solving that problem, there will be no unsolvable problems left.

The \$64 Question

If you are really interested in the

problem of juvenile delinquency, or, for that matter, any other collective problem, we strongly recommend that you investigate the cause for its existence. The whole series of problems would be eliminated by the installation of a functionally controlled society as advocated by Technocracy. Believe it or not, Technocracy has the answers. To understand that they are the correct answers, it is necessary to acquire a collective viewpoint which links your welfare as an individual with the welfare and fate of two

hundred million Continental citizens. Have you the capacity to overcome your anarchistic tendencies to that extent? Some people have that ability, and have acquired collective intelligence. At the moment they are the most important people on the Continent. Many more people will acquire it soon.

Join and investigate. Believe it or not, you can do something about it. The Sixty-four Dollar question is not "can you" but—

WILL YOU?

'From the Cradle to the Grave'

Price System Security

Two children, Sally Armstrong, 12, and Tommy 11, were picked up by police as they wandered down the main street of Richmond, Calif., begging money to bury their baby brother, Richard, 21½, who had died in a Richmond charity ward two days previously, on February 2, 1947. In making their solicitation the children presented a handwritten appeal to passersby. It said: 'My son died Sunday afternoon and we are unable to pay funeral expenses. Your help will be appreciated. Signed—Mrs. Jessie Armstrong.' 'We got \$5.10 already.' Sally told Lt. John Kinstrey at the station. The mother was called and the story found to be true. The officer said it was 'against the law to solicit funds without a city license.' The mother was advised to get a funeral on the installment plan or let the County take care of it. (*Chicago Sun*, February 5, 1947.)

Then a 'game' leg started to bother him and he searched for a place to rest. Underneath a viaduct two blocks from the City Hall he found a large packing box half full of excelsior. 'He scoured alleys until he found a ragged blanket.'

With this equipment Yahnke proceeded to violate the majesty of the law that 'forbids rich as well as poor to sleep under bridges—.' At first, he said, 'I was pretty comfortable.' Then his leg got worse and he was unable to leave the packing box. To complicate matters the temperature dropped to eight degrees below zero; and the worst storm since 1924 swept over Wisconsin. 'The snow piled up in huge drifts outside the viaduct.'

Fred Yahnke was confined to the packing box for two weeks with nothing to eat but snow. At this point a city water department hydrant inspector discovered him. He summoned the police. The man was taken to a hospital where it was found that his feet were frozen. Physicians said that he may lose one or both legs. When notified, Yahnke said: 'I guess I can take it.' (*Chicago Sun*, February 13, 1947.)

In the middle of last Winter Fred Yahnke, 60, of Racine, Wisconsin found himself broke and two weeks behind in his room rent. He was evicted from his room in a Racine rooming house. 'With no place to go he wandered the streets.'

The Power Parallel

By Lloyd Lewis

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'The predominant direction of all wars in Europe and Asia for thousands of years has been an east-west (or west-east) direction. The direction of wars has been similar to and in many cases simultaneous with (either preceding or following) the migrations of people, for the chief expansion movement of peoples has been from east to west. The expansion of population and the conflict of human warfare were channelized down through the centuries chiefly through the North Temperate Zone with few exceptions.

'The east-west direction of population growth will be forced into a north-south, south-north movement. Political states now possess in their technological economies the facilities with which to invade and develop the regions of both the Arctic and the Tropics. The physical demand of increasing resource-consumption of the technological economy of the dominant Temperate Zone political states will force a political expansion to occur in the north-south direction.' (Howard Scott, Director-in-Chief, Technocracy Inc., in 'What Shall It Profit Ye?' in *TECHNOCRACY*, Series A, No. 22, published December, 1942.)

ALTHOUGH there is yet no need for the world to be accepting the professional militarist's doctrine that Democracy must go to war with Communism and that the fighting will start in Manchuria, the agitation does bring the reminder that if the conflict does begin there, we shall have only one more instance of the strange way major dynamics have hovered around the 42nd parallel.

If you will think of Man's experiences as having happened on a globe strung around with spaced wires, you will see that the 42nd one of the upper half has usually been the live wire, the one that has carried the heaviest load of human energy.

Wires above it and below it have carried most of Man's impulses in art, poetry, architecture, music and literature, but force has, for most of the time, leased the 42nd for its own. This, except for a comparatively few centuries in which England, France, Germany, Spain and Austria met in the Lowlands for dark and bloody work, had been the power line, the high-tension wire, carrying Man's

major generations in the turbines of energy, conquest, mass migration, industrialism and adventure. The 400 years wherein Northern Europe rose and fell, from 1500 to 1945, is nothing to the scores of centuries in ancient and medieval eras when activity sparked along the 42nd parallel, and now, with Europe down, the line sings again with voltage.

Along The Power Parallel

With deviations of only a few miles it runs through Mukden, in Manchuria, on to Constantinople, through the Balkas, Rome, Barcelona, Boston, Albany, Buffalo, Detroit, Chicago, Omaha, South Pass in the Rockies and across the North Pacific to Vladivostok.

From two of the cities, Rome and Boston, have continued to come the two most dynamic of evangelistic religious movements, the Roman Catholic Church and Protestantism, both of which have outdone any non-Christian religion in spreading a gospel with fervent zeal. Christianity began to the south and Protestantism to the

north, yet Rome organized the faith and Boston carried to new heights the doctrines of these dissenters from Catholicism, Luther, Huss, and Calvin. British and European evangelists never produced converts in the numbers which the Protestant preachers, stemming from Boston, brought into the fold across America. The only widespread new faith to appear in America centers in Boston—Christian Science.

Napoleon Bonaparte was born at Ajaccio, exactly where the 42nd parallel cuts Corsica, and within a few miles of the line elsewhere were born such generators of power as Thomas A. Edison and Joseph Stalin.

Genghis Khan to Atomic Bomb

Fifteen miles south of the actual parallel at the University of Chicago, Robert M. Hutchins made the decision which produced the atomic bomb. From the Power Parallel there have gone forth on world-revolutionizing campaigns the Mongols under Genghis Khan, the legions of Julius Caesar, the first Crusaders, the Father Marquettes, the American Revolutionists of 1776 (Concord bridge is on it) and the Fascists of Benito Mussolini, whose imitation of Caesar was bettered by his own imitator, Adolf Hitler. Down the line for their great raids came the Huns of Attila and the yellow-haired Visigoths.

The Roman Empire when it got too big for Rome moved east along the parallel to Constantinople and held there for a thousand years, thereby making such systems as Democracy, Constitutional Monarchy, Fascism and Communism by comparison merely blushes that come and go on the face of a girl.

The eternal powder keg of Europe, the Balkans, is cut by the parallel, and a Serb from the neighborhood

started World War I by killing a grand duke of Austria.

The Yankee Driving Force

The most influential arrival in the New World of America was that of the Pilgrims whose Rock is on the 42nd parallel. While other immigrants, notably the Virginians, sometimes surged westward into the wilderness of interior America more adventurously than the New Englanders, whose capital was Boston, it was the Puritans who generated the power which came to dominate the American civilization in its formative years. The restless Yankees, pouring westward along the Erie Canal, which lay on an average some 45 miles north of the Power Parallel, eventually captured control above the Mason and Dixon Line in the fields of education, industry, religion, finance, agriculture, and, when the Civil War came along to help, in politics, too.

The driving force of New England and its Yankee sons first spread its orthodoxies along the path of the 42nd parallel, northern Ohio, Michigan, northern Illinois, southern and central Wisconsin, Kansas, Iowa, Nebraska. Against the impact of these Yankee merchants, schoolmasters, preachers and intensive farmers, the Border State emigrants, coming westward along the National Road, which follows roughly the 40th parallel could not hold their own. Neither could the Southern emigrants coming up leisurely by way of Kentucky and Tennessee.

It was not until the rise of the cities, itself a result of the Yankees' genius for business organization, that New England's original influence in politics and religion ended across the interior of the nation.

Following an Old Buffalo Trail

The first man so far as I know

to have a glimpse of the poetic significance of the 42nd line was Gen. Grenville M. Dodge, who, fresh from tearing up railroads from Atlanta to the sea, went to Omaha in 1866 to build the Union Pacific Railroad west. And it struck him, long after his superb job was done, that he had only taken the 42nd parallel as he pushed the Iron Horse toward the Pacific. He said that he had merely followed the old trail originally made by the buffalo. They had followed the parallel and the Indians had followed them and the gold-hunting overland emigrants had followed the Indians and now Dodge's shining rails were following the wagon ruts out from Omaha along the North Platte River, through South Pass, across the mountains.

It was the path taken by that most energetic and remarkable of all the westward-going emigrants, the Mormons, who had been led half way by Joseph Smith and the other half by Brigham Young, two Yankees from the banks of the Erie Canal.

So if the now apparently unnecessary fighting should break out in Mukden, the world can blame its suicide on the same lust for power that forever sparks along the high-tension parallel, and console itself with the thought that the next-to-the-greatest savage of them all, Genghis Khan, whether he be ravaging Peking, Turkestan or the Caucasus, never got his feet far off the base line for very long.

‘To Grasp This Sorry Scheme—’

A survey of 475 cities in 45 states, made in February, 1947, by the National Association of Real Estate Boards reveals that property owners are holding almost 90,000 dwellings off the market rather than submit to rent controls. This isn't the half of it. The survey also revealed that over 120,000 dwellings were converted to commercial use so as to make more money. (*Chicago Times*, February 15, 1947.)

‘About the best way I can describe American housing is to say, judging from the millions of homeless and ill housed, one would think we were bombed out and we lost the war. What's more, from the looks of things on the home front we've come back to, the war isn't over by a long shot.’—Audie Murphy, veteran who won more decorations, including the Congressional Medal of Honor, than any other American soldier, in a press statement at the National Public Housing conference held at the Palmer House, Chicago, where he was in attendance representing the American Veterans Committee. (As reported in the *Chicago Times*, March 10, 1947.)

‘Slum clearance projects now under way or planned not only will fail to check urban blight but probably will speed decay in other parts of the community.’ In the *Christian Science Monitor* for March 26, 1947 this statement is quoted as the conclusion of a group of housing experts writing in the March, 1947 issue of *Tomorrow's Town*. Among contributors to the symposium was Clarence E. Moullette, Executive Director of the Camden, N. J. City Plan Commission. He reported that one eleventh of the population of Camden lives on less than one-fiftieth of the city's total area and pays less than three one-hundredths of the total tax burden. In this area the population density is 94 to the acre as compared to 20 elsewhere. Citizens living in this area of Camden pay \$16.97 in taxes as compared to \$56.82 elsewhere in the city. The average weekly income in the area is \$30.05 and the average monthly rental \$19.49. Wrote Henry S. Churchill, New York architect another contributor to the symposium: ‘... only a complete and drastic overhauling of the whole scheme of things can accomplish anything to save our cities.’

From The Camera's Eyevue

'It Won't Come In My Time'

'Every Day I Stand Outside Your Door'

The next time you talk yourself blue around the gills explaining Technocracy only to have someone say: 'Yes, that stuff sounds great, but it will never come in my time,' don't throw a fit. Bowl the fellow over with this line. 'Brother, you don't catch on very fast, do you? What I'm talking about is Technology. It's already here. It started around 40 to 50 years ago. Now it's all around us. You use Technology when you go to work in the morning. You obey its dictums on the job all day long. You use it to get home at night. It's in the clothes you wear. It's in the house you live in. You can't 'get by' without it.

The only difference between what we have today and what Technocracy proposes is the same as the difference between a few crumbs of bread and a whole loaf. Today, under the Price System, you get only as much goods and services as it is profitable to sell you. The system of distribution is geared down to an ancient system of monetary exchange that was already old before the Pyramids were built. Under this system there is a Price tag put on everything and it must bring in more than the article cost to produce and get to you. Thus, the ability of the consumer to acquire goods and services is restricted by the ability of the Price System to sell.

For the first hundred years of the industrial revolution, due to the primary advance of technology, the ability of the Price System to sell for a profit increased greatly. Since then, due to the further advance of technology this ability has declined. Today we have a state of affairs where precisely because of the ability of technology to produce an abundance of everything the Price System is unable to distribute it. This makes sense when you recall that everything must be sold for a Price and at a Profit. It is impossible to sell abundance at a profit. So, all the Price System can do is to restrict it. That's what you are getting now, a restricted handout from the vast warehouse of abundance.

The factor that keeps you and every other North American from leading a better and fuller life is Price, and not ability to produce. Technology has demonstrated its ability to produce on many occasions. The last time was during the war. It flooded the whole world with goods and services. It was all sold and paid for at a nice profit, too. Uncle Sam (which means us) went into debt about \$200 billion to pay for it. Technology is demonstrating its ability to produce every day. Just look at these pictures and you'll get the idea. Then turn to page 32 for the rest of this story.



Photo: Goodyear Rubber Company

For instance, take housing. We're short millions of homes but we have a lot of aluminum capacity. Here's an aluminum house that is quite livable. It is anchored to a concrete slab foundation and insulated with aluminum foil. Twenty-five units are being built in Akron. Homes are scarce not because of a scarcity of materials or technology but because of too much Price System.



Photo: Department of Commerce

Then here's glass. There's a lot of that, also. As glass wool it is light and fluffy for insulation. It can be made into fabrics like this ironing board cover, ligatures, bricks, and building materials. Glass is physically stable and will not shrink, warp, rot rust or burn. Thousands of uses are being developed but we still have a housing shortage. It's the Price System, not technology.



Photo: The Pullman Company

You can't build houses out of air, but you can ride on it. Here's a railroad car spring made out of ordinary air with a casing around it like a tire. A reservoir maintains pressure in the springs up to 100 psi. Air springs reduce bouncing, side sway vibrations. Ordinary air can't be sold because it's abundant. But the Price System peddles plenty of hot air. Catch on?



Photo: Ka'ser-Frazer Corporation

"Little girl, big load." Flora Goodson, 5'5", 106 lb. crane operator, lifts 9 tons of auto body steel with nonchalance. No, that's wrong! The load was lifted with technology. The nonchalance is a reflection of the power at her command. The operator directs technology correctly. That's all North America's whole technology needs, correct direction. Social results would be revolutionary.



Photo: Everett Shipbuilding and Dry Dock Company

Here is revolution; the cycloidal propellor, invented by Professor Frederick K. Kirsten, U. of Washington. It uses blades instead of screws, gets 25% greater efficiency and permits hitherto impossible maneuvers. Blades attach to a rotor and turn on their own axis as the rotor revolves. Water is pushed in any direction desired, forcing boat forward, backward, sideways and in circles.



Photo: Everett Shipbuilding and Dry Dock Company

Here's how conventional screw propellers look. This is the same hull as above before changing to cycloids. These screws with hubs, shafts, strut supports, etc. constitute a drag which is about 10% of total hull friction. Cycloids eliminate this encumbrance, together with all vibration. Cost of installation is lower than for screw propellers. Technology is a real revolutionary.



Photo: Everett Shipbuilding and Dry Dock Company

Cycloids perform the function of screws and also rudders, with far greater power than either. This Navy 914 ton, 203 LSM was brought to a dead stop from 14 knots speed in its own length in a few seconds. It performed merry-go-round turns using the bow as a pivot without any forward movement. Then it actually moved SIDEWAYS under its own power without ahead or astern movement.

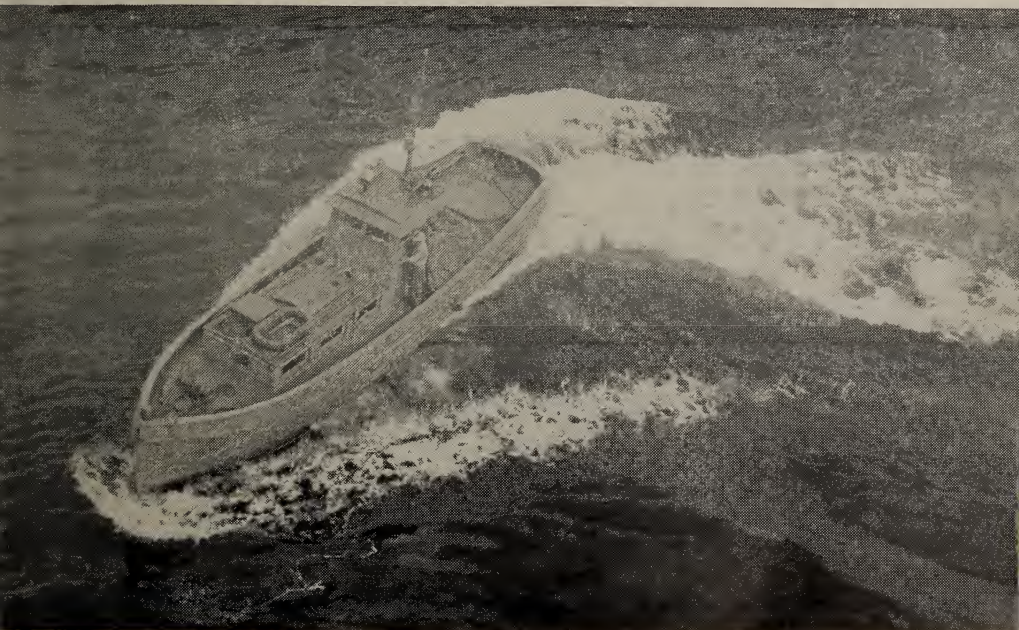


Photo: Everett Shipbuilding and Dry Dock Company

This Army tug equipped with cycloidal propellers is powered with a 120 hp marine gas engine. It was hooked stern to stern to a tug powered with a 165 hp Diesel and conventional screw propellers. The Army tug pulled the Diesel steadily backward at over one knot speed. Cycloids eliminate rudders and reverse gears, are adaptable to ocean, shallow water, lake and river craft of all types.

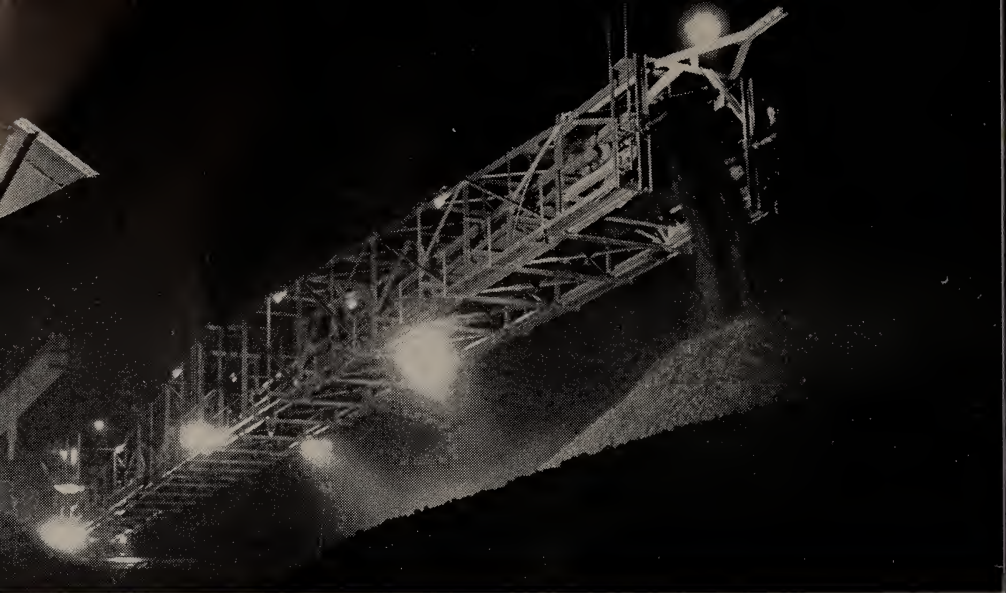


Photo: Borg Warner Corp: Boland and Cornelius Lake Transportation

Unloading from ship to shore. No help wanted here. The ship is 'self-unloading.' Huge buckets dip up coal from below decks and transfer it to this 247' boom, conveyor belt which piles it up neatly on wharf, lighter or land at the rate of 35 tons per minute. How long would it take to get 35 tons ashore with a wheelbarrow? There's your revolution, gentlemen. Can you stop it?

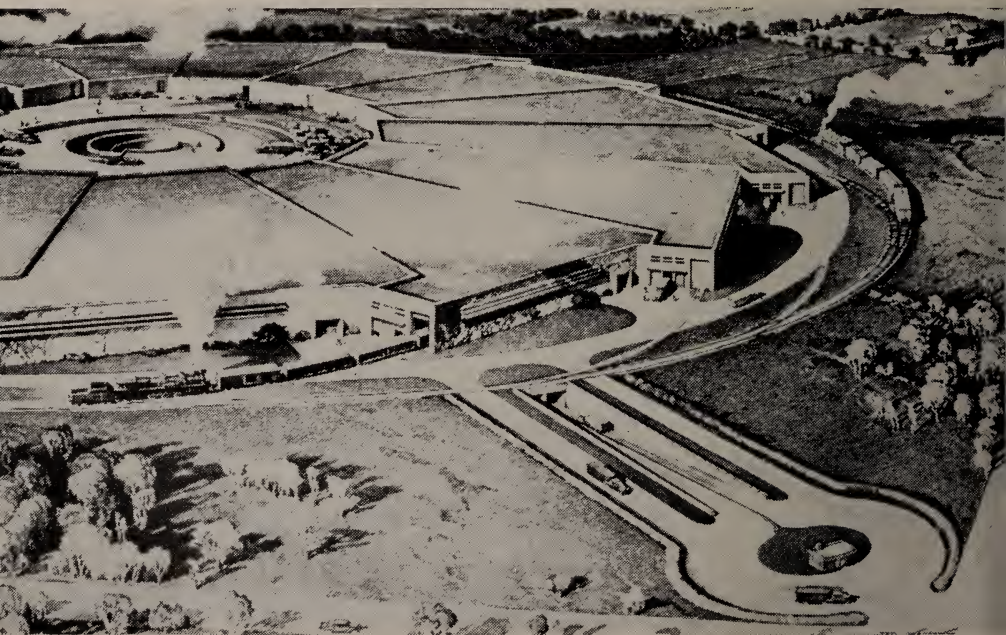


Photo: H. K. Ferguson Company

You can't go back. Here's a materiel depot, for receiving, storing, handling and shipping merchandise of all kinds. Railroad cars deliver to the outside and trucks load at inside. It cuts physical handling in half, reduces maintenance and labor cost. Produced for a large mail order house, this functional design can be used in any industry where warehousing is a part of the operations.



Photo: Public Roads Administration

Here's how roads looked in 1919. Up to then the U. S. had no national system of highways, but 'only a meandering, unmarked tangle' of mud and dirt trails like this. Driving 50 miles was an adventure. In 1942 there was almost 1,500,000 miles of surfaced roads besides another 1,500,000 of non-surfaced roads. Today's traffic needs far better roads than we have, but Price always interferes.



Photo: Public Roads Administration

This is a 3-level bridge design on Long Island. Just goes to show how technology operates. The Public Roads Laboratory can be credited with much of the highway development. Of course, the politicians control road policy; and the construction interests control the Price. But it's remarkable what technology does even under Price System handicaps. If it were set free—Oh, Boy!



Photo: International Telephone and Telegraph Corporation

'It won't come in our time, eh?' Well, it is here now. This 300' experimental microwave tower at Nutley, N. J. can handle 6 color television programs, 4 black and white programs, 12 FM programs, 6 police networks, and 'multiple transmissions to delivery trucks, trains, etc., and microwave transmission of long distance telephony,' simultaneously. Our guarantee of Abundance is here now. See?

Tomorrow Was Here Yesterday (Continued from Page 25)

'Technocracy is not trying to reform the Price System so that the chiselers will go a little easier on the suckers. It is merely pointing out to you that the days of the Price System are numbered. The Price System will collapse because of the internal tensions set up by the impact of Technology. The ability to produce and the need for it is in conflict with the necessity to exchange for a Price and the compulsion to restrict production. The resulting social tensions grow ever greater. The only thing the Price System can do about it is to install more Technology. This relieves the tensions for awhile. Then, they get worse. It's like taking epsom salts for constipation. You have to take more and more and then finally you 'bust' wide open anyway.

'When the final crisis comes it will be necessary to have a better social system to replace the old wreck. If we are not ready, then civilization could easily go back to a new dark age. That is why Technocracy points out what we might have by setting up a scientific system. This involves a comparison with conditions today. We have to know what we have now, where we are going, and what the alternatives are. One alternative is fascism. Just look at Europe today and decide whether you want that. That is where fascism leads to. The other alternative is abundance.

'Just think of all the desirable things of which most of us never get enough. Good food, good clothes, a good home, a happy family life, a good education, good health, a good job at work we like to do with short hours, top conditions and a high income, no taxes, interest, rent, insurance or profits to pay out, good fast transportation, plenty of leisure time and purchasing power to travel and enjoy life, equal opportunity with all other citizens, freedom from restraint in religion, speech and culture and full income from the age of retirement (45 years) to death. This is only a sample of what we can have.

'What more could you want? How many people get that today? Do you? Yet, it is possible for all RIGHT NOW! Technology has been able to produce it for at least 25 years. The Price System never can and never will. You are being robbed, my friend. Get wise! Get wise to yourself! Get wise to the ancient and lousy Price System that is robbing you! The tomorrow that you dream about was here yesterday. It is here now. The Price System is holding out on you. Join Technocracy and find out what to do about it.'

Taxes—They Support What?

Part 3

By A. E. Borel, MAL

The first part of this three part article traced the beginning of taxation. It showed how at first taxation was a voluntary social donation in the collective interest. It outlined how the Price System subverted that purpose and turned taxation into a compulsory contribution. The Price System put the jingle into taxation and made it profitable for the blessed minority on top of the social dung heap.

The second part gets into the meat of the title: Taxes—They Support What? The chief beneficiary of taxes is private enterprise. This may sound illogical at first. But, read the entire article. It gives a very good analysis of the insanity of Price System operations.

The final installment of this article describes the true function of taxation. It explains why it can never be realized under the Price System and how it will be attained in the Technate of North America without money or Price. For the reader who wants to be well informed in the Body of Thought of Technocracy this three-part article is a must. Back issues are still available.

Jack: 'From what I have said, Bill, you can see that the outpourings of the tax money have gone far and wide. But, Bill, they have not gone far enough and they have not gone in the right direction! You can see that the benefits of taxation have been distributed very one-sidedly. The circle of beneficiaries of taxation must spread ever wider, and it must go to the right people. Do you see, now, what I was driving at when I first started in?'

Bill: 'Well, if you hadn't told me all you have, Jack, I might have said something like this: "What are you going to do, increase the number of people who are going to receive tax money? If you do that you will decrease the number who will pay taxes. That won't do at all. Taxes will eat us up, and we won't have any incentive(?) at all." Hasn't that been the howl right along whenever taxes were proposed to help the common people? Now I know what you mean. Here we are. We can't help the common man but we can pay our tax money as interest on bonds to support a small group which already has more

than it can use. Some goes to support a bunch of convicts in idleness while the rest of us work to pay taxes to feed them. Of course, the insane have to be taken care of, so that is one load off the poor family man. Why go on. I would like to ask, though, the reason for not putting convicts to work at really productive work?'

Jack: 'The reason for that is simple, Bill. It would interfere with the system of free enterprise. It would put a lot of goods on the market which would put some "honest citizens" out of work, thereby reducing the purchasing power. And who would get the profit? The State? That is unthinkable. Also, the cost of hundreds of thousands in idleness or at work done at a very low rate of efficiency is a juicy plum to be paid for with taxpayer's money. All you have to do is get the contract, and there it is!'

Bill: 'That looks like a good answer to me, Jack. But to go on like you asked. Here we are throwing all this money all over the place, digging ratholes to put it into if we haven't got one already made,

and all the time, right up to now, the children, the aged and the infirm have been the sole responsibility of the members of their own families, with some modifications in recent years. Two men are working side by side, on the same job, they get the same pay. One man, single, maybe married and no children, or maybe one child; the other, five, six, seven or more children. The single man, the man and wife, the man, wife and child, can do well with the pay that will naturally mean a much lower standard of living for the man with the many children. Yet society considers that the five or more children of the latter are just as much the sole responsibility of this man as the one child or lack of children are the sole responsibility or lack of responsibility of the former. So it is with the other dependents. And you figure Technocracy would solve this problem?"

Jack: "Sure, it will solve it, Bill. I've shown you that, after all, all tax money is paid out to support people. Isn't it? Well, in a Technate each person gets support, don't they? If he is a citizen of the North American Continent, he receives an income sufficient to cover all his needs. He has his goods, clothing, shelter and social services. If he has them, you do not need to collect them in the form of taxes to pay them to him again, do you? By distributing the physical necessities of life in this manner, you actually accomplish the purpose I stated in the first place; society as a whole is taking care of those who are unable to take care of themselves. Furthermore, it is done in a more efficient and thorough manner than could ever be done under a form of money taxation where you always have the taxpayer on your

neck seeing that you don't overdo the charity.

"To put it a little more in focus, let's look at it this way. Let's divide society into three groups. Kind of analgous to the three classes that are the beneficiaries of money taxation, only different types. The first of these groups is composed of those who produce, the father act, we might say; the second, those who serve, the mother act, we might say; and the third, the dependents, the children in our story. At one time a man was a law unto himself. He could produce his own living. If he fell ill or was injured, he had to fend for himself. If he could take anything and hold it by force, it was his; otherwise, he lost. His wants were few and his means for satisfying those wants were meager. He was beholden to no one.

"Today, no one can live unto himself in our society. Life is too complex. In a scientific social system, such as that envisaged by Technocracy, there will be those who produce. They will supply the population with the physical goods of life, the food, clothing, transportation, shelter, etc. They are the Producers. Then there will be those who supply physical services. They are the doctors, dentists, teachers, policemen, soldiers, entertainers, social services, executives and leaders, and so on. Let us call them the Servors. Financial interests are not included as there are no financial interests in a Technate. Lawyers will be very limited in their vocation, as there are no property rights over which the people can quarrel.

"It is very evident that the Servors cannot furnish their own sustenance. It must be furnished them by the Producers. Likewise, the Pro-

ducers. They require more than food, clothing and shelter. To whom must they look but the Servors! These two groups, then, are mutually dependent and can interchange their efforts to the satisfaction of each. That is, they are complementary; there is nothing between them except an equal give and take.

"This is not true of the third group, the dependents; the young, the old, the infirm. They must be maintained. They require goods and services; yet they have nothing to give in return. On what fair basis and who will take care of them?

"The Producer must say to the Servor: "We, with our multiplied energy derived from oil, water, coal, the atom and the sun, are able to produce sufficient to supply ourselves and all others on this North American continent with all of the physical goods of life in abundance. We, for our part, will produce for all. You carry on with the social role you have chosen." Both roles are necessary. It requires both physical goods and physical services to build a real civilization.

"Then the Servors will say to the Producers: "Yes, without your production we would be helpless. We could not carry on. We would have to stop and raise our own food. We would have to make our own clothing, build our own homes, etc. The General Welfare would suffer. Do you produce. We for our part will perform those physical services which shall be for the General Welfare. We will train and perfect ourselves and others in those services. We shall be on the alert to discover the secrets locked in the storehouse of nature. So, working together, you producing, we serving, we shall be, together, our brothers' keeper. It shall be one for all and all for

one, without money and without price."

"Thus we shall complete the evolution of taxation from the time when all were dependent on each other down through the ages when all taxes went for the support of the chief, the priest, the king, and all that goes with it. Then we'll arrive at the final stage wherein each taxes himself by giving part of himself to his neighbor and in return receives part of his neighbor for himself. This will come about through the design of Technocracy."

Bill: "Jack, that's great. I can see it! All people do not and cannot pay taxes. But all people must receive the benefits of the taxes paid. So somebody must pay more in taxes than they can hope to get back to make up for those who pay little or nothing. In our present method of tax collection, we do it by paying more money. In a Technate we will do it by giving of our time and energy. However, he will have to put in so little more of these to pay his tax that he will hardly notice the difference."

Jack: "Yes, Bill, this will be fair and true taxation. It will be service from all that are able for the good of all, producers, servors, dependents, with profit to none. I'm glad you are signing up for Technocracy. It is the only thing to do in these troubled times. Get in and help boost the thing along, Bill. You can do no better than to join the only movement in North America which has a workable design to solve the social problems created by the impact of science and technology upon the ancient Price System. I will leave it with you. Be seeing you around Technocracy Hall, Bill. So long!"

Bill: "So long, Jack, and thanks for the information. I'll be seeing you!"

Primer of Technocracy

Prelude to the Industrial Revolution

By Henry Elsner, Jr., R.D. 8342

Look Down That Ancient Road

THE world in which we are living today is facing a crisis unique among its centuries of history. The atomic bomb has dramatized this crisis as no outpouring of written or spoken words ever could. For the first time in history, man is being forced to realize that he cannot shape his destiny by mere decisions of the mind, but is subject to a behemoth of power which he himself has created. Man now has it within his power to destroy himself by his own hand, or to have his creations be not his masters, but slaves in a new era of abundance and liberty. The problem must be faced squarely, and it must be faced now.

To fully understand the problem of today in its full implications, we shall have to study the past, not in order to find a solution, for none is to be found there, but to see how the events of today are not conundrums suddenly thrust upon an unsuspecting world but the culmination of a series of long-term trends, originating before the dawn of history itself.

Man differs from the other fauna of this planet has in one all-important respect: he has the ability to reason. Through the application of this ability he has been able to rise to dominion over the rest of the animal kingdom.

One of the first inventions probably used by man was the club. This simple device gave him a decided advantage over the other beasts of prey. He could use it as both a weapon of defense and offense; he could better defend himself and at the same time increase his ability to guarantee himself a food supply.

Progression Takes a First Step

The discovery of fire is perhaps one of the most important fundamental discoveries ever made. For this was the first use man had made of extraneous energy—energy derived from sources other than food eaten. No other animal has even been able to do this, and it is from this application of extraneous energy that our problems of today directly stem.

The domestication of plants and animals were two more important steps in man's further harnessing of energy for his own purposes. By domesticating plants, man was able to divert energy, which had hitherto been wasted, to his use in the form of food and other useful products. Animals further provided for man in two ways. First, food such as grass, which was unusable by man in its raw state, was converted into usable food in the form of meat; and secondly, animals furnished muscle power to supplement that of man.

The discovery of metals was another very important step in man's climb toward civilization. It gave him better tools and weapons, but also created a new problem. Man found that deposits of the needed metals were scattered throughout the world, with shallow deposits few and far between. As mines were necessarily made deeper and deeper, it was discovered that mining operations were severely hampered by the seepage of water into the mines. Pumping systems were devised, using human beings, and later animals, as sources of motive power. This was not enough; a new source of power had to be

found. Wind and water power had been used to some extent, but this use was necessarily localized, and not to play a very important part in this era of history

At first glance it would seem that all these advances would have tended to raise the standard of living of early man and better his daily existence. However, such was not the case. The fact is that population increased proportionally to the rate of increase of energy conversion, so that as many people lived on a given area of land as it would support. (It is to be noted here that this trend does not continue indefinitely, but eventually levels off, when a certain standard of living has been attained.)

Throughout the entire period from the dawn of history until the Industrial Revolution, the human being was the basic unit of energy conversion, supplemented by his inventions. But as yet, nothing had been invented which would *displace* human energy. Consequently, society was at first composed of only one level; everyone worked 'by the sweat of his brow' to eke out an existence.

Enter—The Price System

Gradually, as a state of equilibrium was established between man and his environment, a very small minority of people, more clever than their fellows, maneuvered themselves into positions where they did no work, but were supported by the rest of the people. These were the politicians, priests, and merchants of the times. Sometimes they ruled by brute force alone, but they soon learned that it is much more profitable to have one's rule and authority willingly accepted, than to ram it down the people's throat.

This type of society remained stable for thousands of years, and through it were founded beliefs about money, trade, property, value, morals, and

ethics which have been so firmly ingrained that they form the basis of our thinking even today. The great majority of the people had no opportunity for education of any kind, not only because such facilities did not exist, but because they were too busy working day and night to keep themselves alive and support their rulers. The ruling group always remained a small minority, for there was a limit, even back then, to the limits of social tolerance. When the burden became too great, there took place a revolution or a coup de etat with the result that one oligarchy was overthrown and another established. These conditions were able to continue because no discovery had yet been made which would displace human labor, and because population growth kept pace with improved hand-labor techniques.

At the beginning of the 17th Century events began to occur which would start the developments that would change our entire way of life and patterns of thinking. About 1600 the forests of England were becoming fewer, with consequent lessening of timber. English iron mines had depended upon charcoal for smelting processes, and with the falling of the wood supply for making charcoal, it became imperative that a method of smelting iron using another fuel be discovered.

Coal had been known and used as fuel by the poorer people for some time, but it had not been used for industrial purposes. Finally, in 1745, the method of making coke from coal was discovered, and that this coke could be used for smelting iron. Both iron and coal were plentiful in England. Thus, the more coal was mined, the more iron could be smelted; and the more iron smelted, the more iron tools to mine coal and iron ore.

The utilization of gunpowder for

industrial purposes, as blasting in mines, went hand in hand with the increased use of coal.

This increase in magnitude of operations served to intensify the old problems of mining; how to pump out the water and hoist ores out of the mines. Using human and animal labor on a large scale was not practicable, so a new method of power had to be found.

A New Period Begins

Thus was the steam engine born. Thomas Savery, in 1698, devised the first simple steam engine, and attached it to a pump for emptying water out of a coal mine. Savery's effort was crude and largely unsuccessful, and was succeeded by the inventions of Newcomen and Cawley in 1705, and James Watt in 1769. The year 1776 is notable in history for an event which was to assume far more importance than the political actions of the time; the first single acting steam engine was tried out for pumping water out of a coal mine. It worked.

One of the first industries besides mining to which the new power was

to be applied was that of textile manufacture, in which such vast changes were made that this point is generally known as the beginning of the Industrial Revolution.

This new power was soon applied to all phases of manufacturing and to transportation. New discoveries in the electrical field revolutionized communication. The age of power was soon underway.

The advent of the machine brought new problems which demanded new solutions. But these problems were not to assume their real importance until a century and a half after the March of Power had begun. At first the machine brought some degree of prosperity and raised the standard of living. It ushered in a period of vast geographical expansion. As the years passed, however, the outlook began to change. Why had the machine, with its power to free human beings from backbreaking toil, created slums and misery and unemployment for the many? Was the machine a curse instead of a blessing, or was society at fault for not adapting itself to the new age? These questions will be discussed in the next issue in 'The Culmination of the Industrial Revolution.'

Corrections of Errors

In the March-April issue No. 84 on page 33 a whole line was dropped by the printer. This omission occurred on the 7th line of the first paragraph. This made a jump from the 6th line to the 8th line. The 7th line read: 'long and about 100 miles'—. The mistake makes it read that the Ceneral Valley is 500 miles wide when the correct statement

was that it is 'around 500 miles long and about 100 miles wide.'

LEGEND FOR CHART

In the chart on page five of the same issue the symbols that identify the lines on the chart were deleted by mistake. Herewith we are reproducing the entire legend as it should have been printed in the first place.

Legend for Chart

- — — 1 square in height equals 800,000 miles of wire.
- - - 1 square in height equals 1 employee per thousand telephones.
- . . . 1 square in height equals 10,000 employees.
- — — 1 square in height equals 200,000 telephones.
- Theoretical curve based on the growth of the number of telephones.
- 2 squares in length equals one year.

Technology Marches On

'Productivity Changes Since 1939'

By Research Division 8741-1

In Two Parts—Part 1

Data in this article is taken mostly from 'Productivity Changes Since 1939' in the MONTHLY LABOR REVIEW for December, 1946. The material was prepared in the Productivity and Technological Development Division of the Bureau of Labor Statistics by Celia Star Gody and Allan D. Searle.

Looking Backward, 1909-1939

PHYSICAL output per man-hour (productivity) in manufacturing industries increased about 141 percent between 1909 and 1939. The average rate of increase was over 3 percent per year. The BLS states: "This steady improvement of productive efficiency was due mainly to the growth of scientific and technical knowledge and the utilization of this increased knowledge in the industry." In some industries new processes and equipment revolutionized production. Examples of this are the cigar machine and the continuous strip mill in steel. In other industries man-hour output increased because of continuous small improvements without revolutionary changes in production methods.

Some of these changes are listed as follows: 1. Specialized machines for particular operations; 2. More nearly automatic machines; 3. The introduction of equipment with larger capacity; 4. Improvements in plant layout; 5. Improvements in the flow of work through the various stages of production; 6. Growth of mass production, i.e., production of large numbers of identical units; 7. Nontechnical factors such as job analysis, placement and training, air conditioning, reduction of noise, safety and health programs. etc.

Reflecting the advance of technology as a whole the greatest increases in productivity occurred in the newer industries. It rose 180 percent in automobile manufacture between 1919 and 1939; and in petroleum refining the rise was 290 percent. In tires and tubes between 1921 and 1939 the rise in productivity was 325 percent. In the manufacture of industrial chemicals for the period of 1919 to 1939, the rise was over 300 percent. In the rayon industry, between 1923 and 1939 the rise was about 400 percent. Large gains were also made in cigarette production, silk and rayon goods, glass and nonferrous metals. In older industries, such as food processing, leather, furniture and lumber, the increase in output per man-hour was far less.

War Industries, 1939-1945

Rapid advances were made in war industries as production expanded. New plants were built and new techniques introduced. In the production of Liberty Ships the man-hours per ship dropped from 1,150,000 in December 1941 to 515,000 in December 1944. This sums up to a decrease of over 50 percent in labor requirements and a rise of over 100 percent in productivity in 3 years.

In aircraft production the increase in productivity was more startling.

In the 3 years from 1942 to the end of 1944, the production of airplanes multiplied sixfold and productivity increased 160 percent. In 1943 productivity rose 33 percent in shell and bomb loading; 40 percent in small arms ammunition; 45 percent in TNT production.

Nonmunition Industries, 1939-45

Productivity in the nonmunitions industries was more erratic. In those in which the volume of production expanded, the output per man-hour rose. Where volume was reduced, productivity declined. During the war few changes in equipment and technique could be made in non munitions production, and the manpower shortage was acute. Thus, the basis for increased output per man-hour was absent. Manhour output in 32 nonmunition industries had been increasing between 1939 and 1941. However, from 1941 to 1943 it declined. In 1944 it leveled off, and then began to go up again in 1945.

The fact that the decline in man-hour output was leveled off in 1944 is a tribute to the ability of these industries to cope with wartime problems. Between the first half of 1945 and the first half of 1946, productivity rose from 5 to 20 percent in these industries. Complete figures are not available. However, the greatest increases occurred in industries able to expand production as soon as war restrictions were lifted. Thus, productivity rose 20 percent in cement and clay products, and 5 percent or more in glass, paper and pulp, paints and varnishes, rayon and allied products. The volume of production in 1946 was also higher than in 1945 in all industries where the output per man-hour increased.

Among the causes explaining the decline in output per man-hour in

nonmunitions production between 1941-1943 may be listed the following: 1) Wartime bottlenecks caused by intermittent interruption in the flow of raw and semi-finished materials; 2) Changes in the composition of the work force caused by induction of trained workers into the Armed forces and their replacement by women, students, older persons, etc.; 3) Induction of experienced management officials into war services and their replacement by less experienced men; 4) High labor turnover or quit rate; 5) Absenteeism, particularly among women workers with home responsibilities; 6) Increased fatigue due to the longer wartime work week; 7) Decline of capital investment in nonmunition industries.

Between 1937 and 1940 expenditures for new plant and equipment in industries producing for civilian consumption was \$3,000,000,000. This declined to \$1,800,000,000 between 1941 and 1943. During 1944 this figure rose to about \$2,500,000,000. It is significant that the leveling off in the decline of output per man-hour in 1944 coincided with a rise in capital investment for new plant and equipment.

Added to these factors was an almost complete cessation of technical research in the nonmunitions industries during the war. Technical personnel were drawn into war industries and many into the Armed Forces. These factors caused an apparent decline in 'worker efficiency'. However, the BLS points out that in the war industries where 'worker efficiency' could be expected to be low because of so many new and untrained workers, it actually was the highest. The greatest increases in man-hour output were made in the newly built war plants, although they were largely staffed by new and untrained workers. The BLS states:

The advance in man-hour output has its origin in technical innovations . . . Among the factors which determine the relationship between output and labor input, the most important are probably the production methods and the quality of the equipment used. In 'normal' times, it has been possible for productivity levels to rise year after year mainly because there have been steady improvements in processes and equipment.

Outlook for Manufacturing

The long term advance in the rise of output per man-hour is being resumed now. It will be unusually rapid in the postwar period. Widespread installation of new equipment is taking place. The *Survey of Current Business* for December 1946 reports that expenditures for new plant and equipment in 1946 reached almost \$12,000,000,000. This is over 25 percent higher than the previous peak in 1929. This total excludes agriculture.

Of this total, almost \$6,000,000,000 was in the manufacturing industries. About three-fourths of the investment was for new equipment and one-fourth for new plants. The Survey points

out that: 'From 1919 to 1940 the trend in expenditures for new plant and equipment moved up and down coincident with fluctuations in the general level of economic activity.' The BLS points out further:

These large-scale installations of new equipment will make possible substantial increases in man-hour output. (Even if no radically new machines are installed the increase will) . . . raise the average quality of all equipment in use and would permit retirement of the least efficient machinery. It is likely, however, that the types of equipment installed will be superior to those which were available before the war, and this factor should permit additional gains in productive efficiency. Techniques developed for war production, as in metal working and electronics, will undoubtedly contribute to the advance of productivity over a period of years.

The final part of this article in the next issue will describe the productivity changes in nonmanufacturing since 1939. These industries include mining, railroad transportation, electric utilities and agriculture.

Malnutrition Is Only A Word

In November, 1946 'the country's fish in cold storage had reached a mountainous peak of 160 million pounds. 'That's painfully near double the pre-war 1939 high of 92.4 million pounds.' (*Wall Street Journal*, March 6, 1947.)

There was 800,000,000 pounds of fruits and vegetables in freezing storage on January 1, 1947. This was 41 percent more frozen foods than the warehouses held a year ago. According to *Business Week* for February 22, 1947 about 100,000,000 pounds of it is inedible 'and must be either dumped or, in the case of fruits, sold at a fraction of

cost for conversion of their sugar into alcohol.' Meanwhile packers start freezing the 1947 pack in May. The article does not state why this food piled up that way. However, knowing the operating rules of the ancient and lousy Price System, we wouldn't be astounded if the prices asked were too high.

'The Ohio State University agricultural experimental station reports that about one-third of the nation's food production is wasted in handling and never reaches the consumer.' (*Chicago Sun*, February 9, 1947.)

Technocracy and Your Trade

Automobile and Diesel Mechanics

By Organization Division, 8741-1

You Smash 'Em, We Fix 'Em

THE occupation of automobile mechanic is one of the largest skilled occupations in the country. In 1940 there were 442,000 automotive mechanics of whom about 15 percent, or 65,000, were unemployed.

No data is available on the number of Diesel mechanics, as such. Diesel schools have been turning out graduates for some years. However, the number employed solely on Diesel engines is hard to determine from the employment records, since most of them work also on other engines. The Bureau of Labor Statistics reported in February 1946 that:

The Navy established a special rating for Diesel mechanics known as 'motor machinists's mate' in January 1942. On September 1, 1944 there were 70,364 motor machinist's mates including 54,900 who had been trained as Diesel mechanics since the start of the war. The Army also trained 5,086 enlisted men as Diesel mechanics during a similar period.

In general, the duties of automobile and Diesel mechanics are similar, except that the work of the general automobile mechanic covers a wider scope. The Bureau of Labor Statistics states: 'Diesel-engine maintenance is generally regarded as a specialized branch of general mechanical work rather than as separate and distinct occupation.'

In 1940 there were 377,000 mechanics engaged in maintaining motor vehicles of all types and only 575,000 workers engaged in their manufacture. Thus, for every three workers in the

factories two were employed in garages, repair shops, etc.

Unlike the manufacturing end, however, the maintenance end of motor vehicles is widely dispersed throughout our economy. In manufacturing, the Senate Small Business Committee reported in June 1946 that as early as 1935 the eight largest automotive producers turned out 94.2 percent of the total product. In 1939 of the 400,000 workers employed in manufacturing 89 percent worked in plants employing more than 500.

How Long Is A Shoestring?

In contrast to this, the 377,000 general automobile mechanics were spread over a large number and variety of establishments. In 1939 there were 52,000 independent repair garages and 34,000 dealers' shops, most of whom had repair departments. In addition, there were 5,000 battery, ignition, wheel, axle and brake repair shops; 7,000 body and radiator repair shops; 7,000 used car establishments; 12,000 fleet garages maintained by truck and bus lines, department stores, coal companies, breweries, business firms, etc. Last, there were some mechanics employed in the nation's 242,000 gasoline stations.

In regard to Diesel mechanics the picture is also nonconcentrated. They are employed in a wide variety of industries, such as on ships, boats, public utility and municipal electric power plants, office building and factory power plants, in logging, in the oil industry, on railroads, on construction and earth moving machinery, and by companies using Diesel trucks, buses, tractors, etc.

Job opportunities and consequently the entire future of both Diesel and general automobile mechanics are tied in directly with the number of units in use, minus the technological advances taking place in both fields. The dispersed nature of the occupations also has a serious adverse effect upon their General Welfare.

The Bureau of Labor Statistics made a nation-wide study of wage scales in 1943. This revealed that in areas of 100,000 population and over, where wages are the highest, the earnings of 86.5 percent of the general automobile mechanics ranged between \$0.70 and \$1.20 an hour. In the same year BLS data shows that the average hourly earnings of production workers in automobile manufacturing was \$1.23 an hour. Regarding this differential the BLS says:

The lack of uniformity in earnings and working conditions in the automotive maintenance industry may be attributed at least in part to the fact that unionization is not very extensive which in turn is due partly to the wide dispersal of automotive repair shops and the prevalence of shops employing only a few automobile mechanics.

While no data is available, it is safe to venture that the hourly earnings and working conditions of Diesel mechanics will vary as widely as those of gasoline mechanics for the same reasons. In highly non-concentrated occupations like automobile and Diesel maintenance, the worker is at the mercy of good old free enterprise, of the small business variety. This type of enterprise has a peculiar rapacity of its own. It is a type of nickel and dime chiseling psychosis that blooms naturally out of shoestring size operations.

Brother, Can You Spare A Jalopy

Employment opportunities for the general automobile mechanic are tied

in with automobile production and registration. In 1905 there were 78,000 motor vehicles registered. In 1940 there were 32,000,000. We have no figures on automobile mechanic employment prior to 1940. However, in that year there was one mechanic to every 85 vehicles.

Projecting this ratio into 1950, along with a rise in registration to 39,000,000 vehicles, the BLS predicts employment for 460,000 automotive mechanics by that year. It sounds reasonable if you don't count the ifs and buts. The BLS notes a few of these but discounts their effect and leaves others out altogether. Here's how the picture looks.

The number of automobile mechanics needed, as the BLS notes, will be determined by the motor vehicle registration, plus the labor requirements per vehicle, plus vehicle age and utilization, working hours and labor productivity. The little item that is overlooked is the advance of technology. The Bureau does state that a more widespread use of testing instruments will enable mechanics to complete repairs more quickly. Then it hastens to assure all and sundry that 'this type of change will play a relatively insignificant role in determining total demand for mechanics in the next few years.' Well, at least, that's one way to discount labor productivity.

The Bureau also states that an increased number of large departmentalized garages with modern equipment will reduce labor requirements. However, it claims that this advance in technology will be offset by the large number of returning G. I.'s who will open their own little two by four shops where it takes a week to get a new sparkplug screwed in. Now, we'll tell one.

No Tree Grows To Heaven

Vehicle age and use are, of course,

factors in repair demand. By 1950 the average age, even with the increased number of new cars, is expected to be about the same as in 1940. It seems then that the expected rise in employment hinges on an expected rise in vehicle registrations. If, as the Bureau reports, vehicle age and utilization remain about the same, and technology is kept in a pigeon-hole, a rise in vehicle registration will do the trick. Well, maybe, but let's see.

This rise in registration is predicated upon nation-wide full employment for the next four years. No one has yet explained how this is to be brought about. Barring war business and prosperity (of which this present time is a part) it has been 18 years since this nation could look back upon four or more good years in a row. Even then, in the very midst of the prosperous 20's, motor vehicle registration was leveling off.

After 1926 it increased but slowly up to 1930. After that it declined for five years. By that time Federal charity to free enterprise (via the New Deal) boosted it up for two more years. Then, when in 1937, good old free enterprise nobly resolved to accept less Government charity and forced the Federal budget closer to a balance, automobile registration hit the skids again. Remember 1938? In 1939 war broke out in Europe. Since then everything has been rosy for the Price System.

Crank Case Blues

Now, however, the big war is over. Since the time in 1933 when the Government resorted to the mechanism of the unbalanced budget in order to save the Price System from a collapse, some changes then have occurred. The Federal debt then was only \$22,000,000,-

000. Now it is about \$260,000,000,000. Then, the U. S. was an insular nation wrapped up in its own domestic problems. Today, the U. S. is perhaps the world's first power, with commitments it cannot shake off, all over the world.

Then, the credit of the Government was vast and almost untested. Today it is strained and groggy from carrying the Price System's debt burden, which constantly grows heavier. Then, a big, juicy profitable world war was in the offing. Now, a fatal peace has broken out all over the Western world. It looks like it might last for a long time. Good old free enterprise is almost to the bottom of the deck. There are not many more, if any, cards left for it to play. It must go into the postwar period under its own steam, the steam it panhandled from the turbines of Government credit and the fiery cauldrons of World War II. Can it turn the trick?

Good old free enterprise has never solved any social problems yet. In fact, it wouldn't know a social problem if it saw one riding down the street naked, like Lady Godiva. The social vision of free enterprise has been conditioned to a zero/zero state by overlong and myopic concentration on the mark-up figures on the profit-and-loss sheet right in front of its nose. So, why expect free enterprise to look after the General Welfare of Automobile and Diesel Mechanics? The business of business is to make good business out of the status woe.

Strange Fruit

After that sidelight on the operating characteristics of Free Enterprise, let's get back to our story. We have seen that the expected maintenance of employment for auto mechanics is tied to the expected rise in automobile registration. The same general idea

applies to Diesel mechanics. Their prospects are tied to an expected rise in the use of Diesel engines.

In 1929, there were about 3600 Diesel engines produced with rated horsepower of 485,000. By 1939 the production had risen to 19,000 and the rated horsepower to 1,900,000. In 1939 at least 100,000 Diesel engines were in use. During the war this figure rose at least 50 percent. Obviously, one would think the more Diesel engines we have the more Diesel mechanics we need. That is not how it works out in practice, though.

The BLS notes that this increase in number of Diesel engines—

—will not require a corresponding increase in the supply of newly-trained Diesel mechanics, because of the ease with which mechanics familiar with other types of engines can transfer their skill to the maintenance of Diesel engines. . . . The adoption of Diesel engines by railroads usually involves a readjustment by their experienced mechanics rather than the hiring of new personnel.

There is no doubt that Dieselization is coming in on a wide front. Under the tyranny of the Price System operations, it will benefit neither the Diesel mechanic, the civilian labor force as a whole, nor the people of America. Good old free enterprise will collect plenty from it while the Price System lasts. That is the way technology is forced to operate under the Price System. The social results are the fruits of Price, not technology. Here's why Dieselization won't benefit the Diesel mechanic.

In 1940 there were almost 1,000,000 experienced mechanics in the labor force. The BLS observes:

This large reservoir of men capable of learning to maintain and repair Diesels with relatively little additional training because of their

previous experience, is the greatest single factor in the potential supply of Diesel mechanics. . . . The post-war demand for mechanics to service Diesel engines can be adequately supplied from the relatively large number of engine mechanics who will be available.

Heads I Win, Tails You Lose

The reasons why Dieselization cannot benefit the labor force as a whole, nor the people, are not part of this article. However, we'll take a short look at them. The Pennsylvania Railroad recently announced that it had ordered 25 more Diesel locomotives. The United Mine Workers, District No. 5, at Pittsburgh, then issued a protesting statement and is planning to get action in the Pennsylvania Legislature to put a stop to Dieselization of railroads. John P. Busarella, President of District 5, in a statement quoted in *Iron Age*, February 6, 1947, stated that every steam engine driven off the railroad deprived 22 miners of a job.

Robert B. McColl, President of the American Locomotive Company in a statement quoted in *Labor*, February 1, 1947, stated: 'Each new Diesel pushes two or three steam locomotives out of service.' *Business Week* for February 22, 1947, says that railroad management has been sold on Diesels because of their high availability (potential load factor) 'and the substantial decrease (about 50%) in operating and maintenance costs.'

The reason why Dieselization will not benefit the people as a whole is because it will not benefit the labor force. It will bring technological displacement of skill and man-hours and reduce total mass purchasing power. The reason this result ensues is because of the tyranny of Price. Nevertheless, technology is the highway to abundance. Every new advance is an-

other nail in the coffin of the ancient and lousy Price System.

Count Your Blessings

Now, it is time to sum up the prospects of Auto and Diesel mechanics, and point out to them the only way out. The BLS says in its report:

Despite the anticipated rapid rise in employment and the additional job openings which will arise owing to withdrawals from the occupation, the overall employment outlook for automobile mechanics is unfavorable, because of the great number of persons who will probably seek work in the trade.

We agree! That kind of job competition is enough to make any outlook unfavorable. However, the Bureau does offer one plum to the automobile mechanic. Its report states that:

It is estimated that in the immediate postwar period there will be about 5 to 6 thousand job openings each year owing to death and retirement of employed automobile mechanics.

Whether it is expected that the old timers at the trade will quit dying off after the 'immediate postwar period' is over, deponent sayeth not.

A few more factors that will affect the auto mechanic unfavorably deserve to be mentioned. After free enterprise has skimmed all the cream off the postwar market, and is forced to extract profits from the skim milk, these will come into play. Some of them are already in the setting up of assembly line stage.

A number of automobile engines have been designed that will never need repairs. When something goes wrong, the entire engine is removed, and a new one put in. The process takes only a few minutes. The defective engine is sent to the factory and either rebuilt or scrapped.

Another trend that is coming is the elimination of many working parts

in newer designs. In the Tucker Torpedo, which is said to be not far from the production stage at this writing, a terrific blow is struck at the conventional skill and necessity for mechanics. The Tucker Torpedo has no clutch, no transmission, no drive shaft, no differential or rear axle, no carburetor and no brake bands to wear out. The design eliminates 800 working parts. The power moves directly from engine to wheels through hydraulic torque converters.

Always Darkest Before Dawn

This car may set a new pattern for American automobiles. In any event, a new pattern of life is in the making for automobile and Diesel mechanics. Even if automobile registration does rise, there will be not more, but less, mechanics needed to maintain them. That is how technology operates. Because of this, the 400,000 mechanics of our story have nothing to look forward to under the Price System except uncertainty, insecurity and plenty of competition. The auto mechanic's fate is tied in not with the registration level of automobiles but with the fate of the people as a whole.

The Price System of trade and commerce, under which we all endure a sort of half-life, controls the stop and go lights to the General Welfare. If it can figure an angle, whereby a good rakeoff can be taken, the light turns green for a while. If it can't see it's way clear to take the shirt off your back and sell you another, the light turns red. The red light was on the General Welfare for ten years between 1930 and 1940. Remember?

Also, do you remember what turned it green. The magic was mass murder on a global scale. That's the type of a social system the Price System is. It has no solution for any individual's problems, except temporarily, and at

the expense always of others. The advance of technology has made it clear that the best solution for individual problems is to be found in the solution of the collective problem. After all, the individual's social problem is only a reflection of the collective problem. Indeed, it is a part of it. That is what the collective social problem is, a collection of individual problems. The individual problem is a microcosm of the whole.

A New Day Is Dawning

Naturally, the Price System press, pulpit and political rostrum does not point this out. It prefers to yap eternally about a nebulous political democracy that has about as much effect upon the General Welfare as the Grem-lins in a Walt Disney comic. There is only one Organization and one movement on this Continent that has made a scientific study of Price System operations. That Organization is Technocracy Inc. It has uncovered the facts and put them down in black and white for all men to read. Technocracy knows what technology can do. Technocracy knows that the only correct answer to social problems is to

be found in the application of scientific principles and technological methods to social controls.

It teaches this constantly by the printed and by the spoken word. Technocracy is not recognized by the Price System, for the very good reason that to recognize it is to admit its correctness. It is being recognized by an increasing number of alert, intelligent and capable citizens. Among these, surely, can be counted the general automobile and Diesel mechanic. They are responsible and important members of North America's technological civilization.

Technocracy is purely educational. Its efforts are not directed toward competing with labor unions. It is not interested in grinding axes for privileged groups. Its objective is the greatest concept to capture the minds of men since recorded history began. That is to set up a higher form of civilization in North America, devoid of Price, chiseling, charity, depression and war. The blueprint is already worked out. Here is the way to solve all of our problems. The mechanic is cordially invited to Join Technocracy and investigate its design from the inside.



'I've Been Working On The Railroad'

Two locomotive chassis of new design are under manufacture for the first two experimental gas turbine locomotives burning powdered coal. The gas turbine locomotives are designed to run 1000 miles without refueling. The gas turbine generates far greater power in the Winter, or in a cold climate, than in the Summer. Fuel costs are expected to be about one third of the present amount. It is said that operating costs of about 26c a mile can be anticipated for a coal fired gas turbine as against 56 to 60c for a

Diesel engine. The locomotives are smokeless and require no water for motive power. John I. Yellott, research director of the Locomotive Development Committee sponsored by 8 railroads and four large bituminous coal producers, in speaking before the Railroad Securities Club of Chicago recently stated: 'The gas turbine will create a new standard of performance in railroad motive power and defeat the competition of the oil-burning Diesel-electric.' (From a release of the Bituminous Coal Institute, February 7, 1947.)

Who Has The Technology?

Comparison of the Bituminous Coal Mining Industry in the United States and the United Kingdom, by the Bituminous Coal Institute, February 10, 1947

	United States	United Kingdom
Total Production	532,000,000	212,000,000
Employment	400,000	650,000
Seam Thickness (feet)	5.1	4.00
Depth of Seam (Shaft Mines) (feet)	198.7*	1,254
Underground Production per Man-Day (1945)	5.04	1.12
Percentage stripped	19.0	4.9
Reserves (including Anthracite)	3.2 trillion	209 billion
Population	141,500,000	49,000,000
Reserves Per Person (including Anthracite)	23,000 tons	4,000 tons
Life of Reserves (years)	3,500	600
Production Per Person (tons)	3.8	4.3
Number of Mines (1945)	**7,033	1,570
Percentage of Underground Production: (1945)		
Cut by Machine	90.8	72.3
Cut by Pneumatic Picks	00.0	9.2
Cut by Hand	4.0	18.5
Shot from Solid	5.2	0.0
	<hr/>	<hr/>
Power Loaded	100.0	100.0
Hand Loaded on Machines	47.3	1.3
Hand Loaded in Cars	8.8	69.4
	<hr/>	<hr/>
Hauled by animals (1944)	100.0	100.0
Hauled by Machinery (1944)	1.9	32.0
	<hr/>	<hr/>
Hauled by Machinery (1944)	98.1	68.0
	<hr/>	<hr/>
Animals Used in Mines (1944)	100.0	100.0
Percent Wages Are of Total Costs of Production (1945)	6,762	24,530
Labor Costs per Net Ton (1945) (Dollars)	60.2	70.8
Total Costs per Net Ton (1945) (Dollars)	1.76	4.57
Total Wage Bill (Dollars)	2.93	6.46
Average Weekly Wage (1945)	1 billion	900 million
Fatality Rate per Million Tons of Underground Production (1945)	52.05	23.57
	<hr/>	<hr/>
	1.95	2.81

* From a sample of 580 shaft mines. Source: Accident Analysis Division of the Bureau of Mines. The deepest shaft was 839 feet, located in New Mexico.

** Producing more than 1000 net tons in 1945.

Data are for 1946 unless otherwise indicated.

In the Question Box

Planned Scarcity

By Speakers Division, 8741-1

What will become of free enterprise when we get free energy?

THERE'S not much sense in worrying about this. We will never get 'free' energy under 'free enterprise.' The purpose of business is to exploit natural resources and human beings for all the profit the traffic can stand. Regardless of how low technology may push the cost of energy 'free enterprise' will see to it that a nice fat markup is added on. There is no escape from the price tag under the Price System.

Only about 20 percent of the price of electric power is represented by fuel cost today in North America. The rest consists of costs of installations to convert the energy, costs of distribution and other fixed costs of the industry. Among these are rent, interest, taxes, wages and salaries, maintenance, amortization, depreciation, etc. Add to this a nice, fat markup for profits, and you get the price of power to the consumer. That is how the formula works. There's no place in it for 'free' energy.

The Price System is a system of trade and commerce (with the necessary accessory social super-structure) wherein goods and services are bought and sold (exchanged) on a basis of their value. This is done by means of a medium of exchange, called 'money.' The value of goods and services is arrived at by estimating (or regulating) their relative scarcity or abundance. When any commodity is scarce, it is highly valued, and thus commands a higher price than when it is more abundant. Consequently, it is the perpetual business of good

old 'free enterprise' to see to it that goods and services remain relatively scarce. Then a good price can be extracted out of their exchange. If goods and services were allowed to become abundant, prices would drop to zero. Nothing could be bought or sold and business (free enterprise) would come to an end. Is that clear?

Everyone wants to live as well as possible. To do this, all people require a relatively similar and constant amount of staple goods and services. These include not only adequate food, clothing and shelter, but adequate education, health and purchasing power. They also need freedom from restraint in religion, speech, culture, sports and hobbies, equal opportunity in life and security from birth to death.

These are some of the staple outputs of any social system upon which people rely for the pursuit of civilized life. One would think that the first concern of society as a whole would be to see to it that these staples are provided in abundance, so that the level of civilization might be high. Such is not the case, however, in the type of social system defined as a Price System. This kind of a system is based upon keeping the staples of civilization scarce enough, so that they can be bought and sold.

Since all people require these staples, there is a tendency to place a higher desire upon some than upon others when some of them become scarce. Value, in trade and commerce, is the force of human need and desire reacting upon the scarcity of living

staples. Good old 'free enterprise' realizes all this. So what it does to maintain its system of special privilege is to frame the Rules of the System to revolve around the idea of value. Then all that has to be done is to manipulate the supply of goods and services, so they don't become abundant. Human need takes care of the rest.

The net result is a social system wherein a constant cat and dog fight goes on among people for survival. Each one needs access to the supply of staples for civilized living. Since 'free enterprise' has regulated them into scarcity, there isn't enough to give each one all he needs. Only the blessed minority get an adequate supply. These are the smart boys who were smart enough to get born into the right families, or smart enough to make the right social and business connections; or smart enough to chisel out a soft spot for themselves by hook or crook. The talent for this type of smartness is quite uncommon among the general population. Most Americans are just ordinary, plain, decent folks who like to live and let live.

Perhaps a little factual operating evidence will help to clear away the last doubt about the inability of 'free enterprise' to handle 'free energy.' As a matter of record, North America has more available energy now than it can use under the Price System.

Technocracy magazine, No. 9, for February 1937, reveals that this was the case ten years and more ago. For instance: In the boom year of 1929 Public Utility plants in the U. S. produced over 97,000,000,000 kilowatt-hours of electricity. Installed capacity at that time was almost 32,000,000 kilowatts. Thus, the load factor, that is, the actual output as compared to the possible output under continuous operations, was a little over 30 per-

cent. The U. S. Statistical Abstract reveals that the load factor on electric production for public use in 1944 was only around 50 percent. That was the year of peak war production too. The installed capacity of all power generating plants in the U. S. in 1945 was over 50,000,000 kilowatts of energy. In 1939 the known but undeveloped water power sites in the U. S. had a potential annual output of 418,000,000,000 kilowatt-hours of energy at 80 percent of capacity.

In Canada few of the rivers have been surveyed. However, 'Canada's developed plus undeveloped sites which have been surveyed could produce 229,000,000,000 kilowatt-hours per year at 80 percent of capacity.' The last two estimates are from *Technocracy* magazine, No. 16 for July 1939. Thus, we see that North America's problem is not how to get 'free' energy but how to use the energy already available. These facts are constantly ignored or glossed over in all the talk about 'free' energy.

Energy is 'free' now if we want it that way. When the Sun sends out its ceaseless supply of radiant energy across the void of space, it does not send an itemized bill along with it. When the earth stores this radiation and converts it into other more usable forms, it does not attach a price tag thereto. Those feats are accomplished by good old 'free enterprise.' The law of the physical universe is energy first, then all other things. The rule of 'free enterprise' is price first, then energy. No price, no energy.

We exist under the tyranny and regimentation of a planned economy for the extortion of price. It is a system of planned scarcity, planned low living standards for the great majority, and planned special privileges for the blessed minority. The plan of the Price System demands a

price for all the staple goods required for civilized life. However, the plan refuses to provide (or is unable to provide) adequate purchasing power to the great majority of citizens, so that they may be able to pay the price demanded.

In order to verify this, it is only necessary to observe the common operations of daily living among your friends, neighbors, and fellow citizens. Note how the formula of price works as a dictator to keep down the General welfare of all. If you would like to find a way out of this social mess, join a Technocracy Study Class. Technocracy teaches the physical facts about the Price System. It also presents a solution in the form of a

new social system designed to produce and distribute abundance to all on a non-Price basis.

A non-Price System operated by engineering methods is possible in North America now. We have plenty of natural resources, plenty of scientists, engineers and skilled personnel, plenty of industrial plants and equipment. North America's problem is not how to get 'free' energy but how to coordinate the above factors into a scientific design of social operations. You may rest assured that when this job is completed, there will be no place in it for the planned scarcity that for 7,000 years has hidden its operations behind a false front labeled 'free enterprise.'



Get Ready For More, Uncle

In addition to the National Capital and the city of Washington there are 40 farms in the District of Columbia with a total acreage of 1854. Recently the Senate Economy Committee issued a survey of Federal Subsidies in the last 12 years. This reveals that the Department of Agriculture has paid out a total of \$81,752,532 in subsidies to the District of Columbia in the last 12 years. If you divide this by 40 it turns out that each farm in the District got about \$2,043,813 in subsidies. The Agriculture Department challenged the Committee's findings and the Committee replied that its findings were based on the department's figures in its own reports. (*Labor*, March 15, 1947.)

The Budget Bureau recently worked out a list of Federal subsidies. 'Some keep prices up. Some keep them down. Some mail checks directly to the people. Some the Federal Government shells out to states. And the states in turn shell out to both agencies and people. Inci-

dentally, the outright relief measures of the 1930's spent a good deal less than the various subsidies to business in the years 1934-45. All told, relief cost about \$8,600,000,000. Subsidies to business totaled \$13,000,000,000.' (*Christian Science Monitor*, March 19, 1947.)

There is an old American belief that all auctioneers are colonels. Be that as it may the 'colonels' report through their organization the National Association of Auctioneers that business is getting better all the time. 'Their business is to dispose of overstocks, of distress merchandise, to raise the money a businessman needs to stave off bankruptcy.' The 'colonels' flourished mightily during the 30's but have had lean pickings during the recent fat war years. There are estimated to be about 50,000 auctioneers in the U. S. In commenting on this *Business Week* for March 1, 1947 observes: 'And good business for the colonels usually means bad business for the general economy.'

Each in His Own Tongue

By Publications Division, 8741-1

VOICE OF THE PRICE SYSTEM

A Prophet Babbles Again

The cost of living will continue to rise during 1947 due largely to the lack of interest in their work by so many wageworkers.

Roger Babson in his syndicated column (as quoted by the *New Republic*, January 20, 1947).

Good Old Free Enterprise

Two or three years ago we proposed a reduction in the life of flashlight lamps from the old basis, on which one lamp was supposed to outlast three batteries, to a point where the lamp and one battery would have about the same life. The battery manufacturers went part way with us on this and accepted lamps of two battery lives instead of three. We have been continuing our efforts to bring about the one battery life lamps. If this were done it would increase our flashlight business about 60 per cent. ... The constant process of reduction of lamp life (household size) that we have been carrying on has kept the volume of business up.

Extracts from inter-office memos and letters between engineers and officials of the General Electric Company as disclosed in a report on cartels by the Twentieth Century Fund. (As reported and quoted by *Labor*, November 16, 1946.)

Is That A Motion?

If people would think more of fairies they would soon forget the atom bomb.

Walt Disney, movie producer, as quoted in an A. P. dispatch from Dublin, Eire, where Disney is on an expedition in search of fairy lore for

a new picture. (From the *Chicago Sun*, November 25, 1946.)

Minority Group Gospel

The job of any union is to get as much wages for its members as the traffic will bear.

Harry Lundeberg, head of the Seafarers International Union of North America (A.F. of L.) (as quoted in a story in the *Chicago Sun*, March 8, 1947.)

Col. 'McCosmic' Solves a Problem

... the dogs begin, not the Byronic deep mouthed welcome but shrill yaps beyond the range of any life. It occurs to me to send them to feed the hungry people of Europe. A pest would be eradicated in Central America, many would be saved, and the great Amundsen is my authority for the statement that dog chops are preferable to pork chops or mutton chops.

(Col. Robert R. McCormick, owner and publisher of the *Chicago Tribune*, in a story from Acapulco, Mexico, which appeared in his own paper January 30, 1947.)

Law is O.K.—Once in a While

And since . . . it was evident . . . that democracy and universal suffrage were embryonic forms of communism and anarchy we declared that these must be fought licitly—"even by legal means," we said, in order to make it clear, in spite of the censorship that by utilizing legal means . . . we are actually paving the way for those who, dropping all scruples of legality, would some day march toward honor and glory . . . We, therefore, had to fight

against the erroneous idea occasionally advanced in certain Catholic (Roman) circles regarding the illegality of insurrection and the use of force.

Cardinal Goma of the Catholic (Roman) Church in the Spanish fascist paper *Accion Espanola* (as quoted by *The Protestant*, May 1946.)

VOICE OF TECHNOLOGY

All In The Same Boat

The next big bust will be everybody's bust. It will be everybody's war, everybody's peace, and it will be everybody's depression.

Edward J. Condon, assistant to the president of Sears, Roebuck and Company, in a speech before the Council of State Governments at the Edgewater Beach Hotel, Chicago, January 8, 1947. (As quoted by the *Chicago Sun*, January 9, 1947.)

Fair Exchange a la Price System

In every two-house Legislature if we post the checks and balances at the end of the session, we shall find that the politicians have the checks and the special interests have the balances.

The late George W. Norris, unorthodox U. S. Senator from Nebraska, while campaigning for a unicameral legislature in Nebraska in 1934. (As quoted by the *New York Times*, January 26, 1947.)

Cat Gets Out of Bag

In 1902 the electric generating capacity of the country was 1,212,000 kilowatts, the industry had 30,000 employees and its output was 2,500,000,000 kilowatt hrs.

In 1946 the capacity was in excess of 50,000,000 kilowatts, there were more than 246,000 employees and the output was above 233,000,000,000 kilowatt hours. *It is significant that the capacity increased 41 times, the output 89 times and the employees only eight times.*

(Italics ours)

Charles Y. Freeman, chairman of the

Commonwealth Edison Company, in a speech before 15 engineering, electrical and related societies and institutions at the Palmer House, Chicago, on the Centennial observance of the birthday of Thomas A. Edison. (As quoted in the *Chicago Sun*, February 11, 1947.)

'Pigs Is Pigs'

I say let religion be taught in the homes and the churches, but at the expense of those believing in the creed being taught. Keep it out of the public school.

I say further to let the churches use the public schools means the beginning of the end of many churches. Except for the Catholic (Roman) Church, there is not a single one that could ever hope for any practical benefit in the end, because when you let the churches use the public schools you are beginning to let the churches feed out of the public trough, politically speaking.

And like pigs in a trough the big ones are going to crowd the little ones out.

Finally, there will be only one left; and then we shall start back to the Dark Ages, with the union of Church and State.

Landon Chapman, attorney for Mrs. Vashti McCollum, in his final argument before the Circuit Court of Illinois, at Urbana, in Mrs. McCollum's suit against the Champaign, Illinois, School Board to stop religious courses in the Champaign schools. (As reported and quoted in *The Chicago Daily News*, September 14, 1945.)

Dictionary of the Price System

A Word a Day Keeps the Fog Away

By A. A. Munnich, R.D. 19 E-47 N;

Geo. B. Connor, MAL and others

AUTOCRACY—A social system in which the rulers do as they please and the people have no say in the matter.
DEMOCRACY—A social system in which the people can have their say but the rulers do as they please anyway.

ELECTION—Choosing between two lemons to decide which one is the sweetest.

DOLLAR—A piece of paper that says the Treasury will pay the bearer one dollar on demand. If the bearer demands his dollar he gets another piece of paper exactly like the first.

ADVERTISING—A device whereby the chiseler gets what he wants by making the sucker believe that he wants what he gets.

CULTURE—Knowing a bit more than nothing about a bit less than everything.

ACCIDENT and CATASTROPHE—Many people get these terms mixed. That's bad. Suppose a giant airliner full of politicians and free enterprisers were to crash that would be an accident. However, if any of them were to survive, that would be a catastrophe.

DEBATE—Tennis ball conversation. It does lots of travelling but never gets anywhere.

LIBERAL—An economic canine that is all bark and no bite.

SENIORITY—An effective method for installing incompetents in positions of authority and responsibility.

BANKER—'A fellow who lends you his umbrella when the Sun is shining,

but wants it back the minute it begins to rain.' (Mark Twain)

PHILOSOPHY—'A study that enables a man to be unhappy more intelligently.' (Groucho Marx in the *American Freeman*, January 1947)

FULL EMPLOYMENT—That level of employment which will not 'provoke an inconvenient restlessness among the electorate.' (Professor A. G. B. Fisher of the Royal Institute of International Affairs (London) in his book *International Implications of Full Employment*, as quoted by *Business Week*, February 22, 1947)

VOTING—The citizen's choice of which fist he'd rather be hit with. Either way, he takes it on the chin.

RUGGED INDIVIDUALIST—The guy who howls the loudest when subjected to the same practices he applies to others.

For the benefit of new readers, this Department was started by a reader of Great Lakes Technocrat. The first installment appeared in the Sept.-Oct. 1946 issue. All the quotations, except for a few taken from the general field of literature, are written by readers of this magazine. As a reward (not pay) for his social surgery on the phony concepts of the Price System, each contributor of one or more acceptable definitions, is sent five free copies of the issue in which his definition appears.

So, get busy, readers. Look around you, and observe the dog-eat-dog operations of the Price System. Then put on your thinking cap and cerebrate a few hot definitions. The idea is to redefine words, phrases, slogans from the viewpoint of social change. Put a new twist on the hoary sayings and platitudes. Definitions should be short, pithy and biting. Load them with ridicule, irony and veracity. Take a crack at the crazy Price System. It's more fun than playing footie with a movie queen!

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This Is Rank Treason Against The Price System

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NOTICE

To Our Readers

If you will send in seven names to 'Great Lakes Technocrat,' together with a one dollar bill we will mail each one a sample copy of this issue; 7 for \$1.00.

Facts In A Nutshell

One 100-ton furnace at the Westinghouse Electric Corporation plant at Fairmount, W. Va. turns out 800 miles of glass tubing a month for fluorescent lamps, or enough for a million fluorescent lamps. (*Steel*, November, 1946.)

A good crop of cotton will produce about one bale of cotton per acre. A new variety of cotton called Coker 100 has produced 3 bales per acre in experimental planting. (*Food Preview*), January, 1947.)

In order to listen to your radio for two hours a day for five days of the week about one pound of coal is consumed for power. (*Mining Congress Journal*, August, 1945.)

In 1939 there were about 800 brick plants in the U. S. and total production was 4,726,000,000 brick. In August 1946 there were 575 plants and total production for 1946 was 4,888,000,000 brick. (*Domestic Commerce*, March 1947.)

The shoe industry turned out 530,000,000 pairs of shoes in 1946. The production rate in February, 1947 was running at a rate of 550,000,000 pairs a year. 'The 1936-40 production average was 411 million pairs.' (*Wall Street Journal*, February 25, 1947.)

A brick is a prefabricated unit.

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NORTH AMERICA'S ONLY SOCIAL DYNAMIC

WHAT?

★ Technocracy is the only North American social movement with a North American program which has become widespread on this continent. It has no affiliation with any other organization, group or association either in North America or elsewhere.

★ The basic unit of Technocracy is the chartered Section consisting of a minimum of 25 members and running up to several hundred.

★ It is not a commercial organization or a political party; it has no financial subsidy or endowment and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$6.00 which are paid by the member to his local Section.

★ Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHERE?

★ There are units and members of Technocracy in almost every State in the U. S. and in all Provinces in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces.

★ Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHEN?

★ Technocracy originated in the winter of 1918-1919 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934, Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundations of the present nation-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHO?

★ Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life, Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this continent. Membership is open only to North American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective political office or active office in any political party.)

★ Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—as long as you are a patriotic North American—you are welcome in Technocracy.

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GLENN FRANK

GREAT LAKES TECHNOCRAT

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GREAT LAKES TECHNOCRAT

JULY - AUGUST, 1947

VOL. IV. No. 5

WHOLE No. 86

Illustrating the Futility of Price System Methods of Operation; Interpreting the Trend of Events from the Social Aspects of Science; and Presenting the Specifications for Total Mobilization for Peace!

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Gullible's Travels

Tell Me A Funny Story, Daddy

By The Peripatetic Technocrat

Based on a story in the February, 1946, issue of *The Technogram*, 12245-1 by Archie Sinclair and Joan Forbish.

My little friend Grildrig, you have made a most admirable panegyric upon your country; you have clearly proved that ignorance, idleness, and vice are the proper ingredients for qualifying a legislator; that laws are best explained, interpreted, and applied by those whose interests and abilities lie in perverting, confounding, and eluding them.

I observe among you some lines of an institution which, in its original, might have been tolerable, but these half erased, and the rest wholly blurred and blotted by corruptions As for yourself, who have spent the greatest part of your life in travelling, I am well disposed to hope you may hitherto have escaped many vices of your country.

'But by what I have gathered from your own relation, and the answers I have with much pains wringed and extorted from you, I cannot but conclude the bulk of your natives to be the most pernicious race of little odious vermin that Nature ever suffered to crawl upon the surface of the earth.' (The King of Brobdingnag in "Gulliver's Travels," written by Jonathan Swift in 1728.)

Stop Me If You've Heard This One

Once upon a time there was a mighty Nimrod. He was famed far and wide as the greatest elephant hunter of them all. He brought 'em back alive and he brought 'em back in bunches.

This Nimrod of nimrods was a lone wolf. Not for him was the grand safari with carriers, gunbearers and a lot of equipment. He hunted alone.

Strange to relate his only weapons were a large blackboard, a piece of chalk, an opera glass, a pair of small tweezers and a couple of empty, quart size, Mason jars. For years he refused to reveal the secret of his great success. Finally, when he came to his death bed he relented and told the following story;

I set the blackboard up in an open space where all the elephants can see it. Then I take the chalk and write in big figures $2+2=5$. Then I hide in the bush. Pretty soon an inquisitive elephant comes around to see what's going on. He

looks at the figures, scratches his floppy ears with his long trunk and then calls some of his pals over to have a look.

They read the figures and start laughing. Pretty soon they're rolling on the ground in uncontrollable fits, each one trying to keep his two sides from splitting with laughter. That's the point where I come in.

You see, nature equipped each elephant with only one trunk. When they get so tickled over my phony arithmetic that they have to try to hold their both sides at the same time with one trunk they're at my mercy. My next step is to take the opera glass, reverse it and look at the elephants through the small end. I adjust the focus until they're as tiny as baby field mice. Then I pick them up with the tweezers and put them into jars. That's all there is to it.

'There Are More Things—Horatio'

Holy jumping smokes! Why didn't we think of that? Wait till N.A.M. hears about this. They'll do nip-ups all over Wall Street. Here is the an-

swer to our postwar headaches. It may even be the solution to all our social problems. All we have to do is look at them through the small end of the glass until they become tiny enough to handle with our contemporary political and financial Rules of Operation. Then we've got the situation licked.

No more of this scientific nonsense of trying to get a correct measure of the growing magnitude and complexity of our social maladjustments. No more surveys, polls or congressional investigations. They only furnish ammunition for those 'damn reds.' That stuff is all obsolete now. We have a magical new formula.

We'll just lean back and look at our social mess through the reducing end of the glass. Then we'll wait and wait and wait. After all, didn't Fabius Maximus (the Delayer) win great victories against the Carthaginians by raising procrastination to the status of an art? Didn't Abe Linclon stall off many a pestiferous job hunter with a funny story? Didn't the good old U.S.A. procrastinate itself back to 'normalcy' once before with the Ohio gang? That was a bing, bang, bang that was heard from Teapot Dome to the remotest corner of the fatherland. Didn't we keep procrastinatingly cool with Coolidge for four years? Finally, didn't we get a procrastinated chicken-in-every-pot (almost) with Hoover? And didn't we almost lose the pot later? Ooops! That last sentence just slipped out. But, if you remember, there wasn't much procrastination about the way we didn't get two chickens in every pot and a couple of tin lizzies to boot in every garage.

Still, it wouldn't be fair to blame that debacle on the 'Great Engineer.' It was those 'damn reds.' Yes, the more we think of it, the more we like this new idea. Let's reduce our

social problems to a size that our pigmy politicians can handle. Let's appease everybody and stall for time. Those pressure groups that we can't appease, we can always bribe. Ooops! There it goes again. We mean subsidize. If any damn fool Quixotes start demanding social action in Congress, by Gad, Sir, we'll filibuster them to death. Political democracy is history's greatest device for social procrastination.

'Damn The Torpedoes, Go Ahead'

Come to think of it, the filibuster is in line with our best traditions. After all, haven't we always filibustered against our social problems instead of solving them? The two-legged ones we filibustered into poorhouses, penitentiaries and insane asylums. The economic and resource problems we got rid of by giving the country away to foreigners. We called it 'foreign trade.' We gave them the money and they traded it back to us for our resources. It is written that it is more blessed to give than to receive.

What's to prevent us from turning the rest of America over to foreign powers? Then there wouldn't be any more economic and resource problems. We could equalize and stabilize scarcity everywhere. But, there wouldn't be any more country left either. Ooops! That's the third time. Darn it! There must be some devil of contrariness haunting this inquiry. Umm! Let's See! No, it can't be that. Yes, it is! By golly, I see it all now. That's it! What we have been saying here is just exactly what we, as a people, have been doing for the last thirty odd years. Let's go back further than that.

In the beginning, our founding fathers got off to a bad start. This was because they imported the European Price System of Trade and Commerce along with their firewater and

holy writ. The firewater and holy writ would have been all right if they had only left the ancient and lousy Price System behind. However, it seems that the three go together on all exploration and colonization ventures. At least, they always have.

After that, we proceeded to take the Continent away from the native Indians. This was history's slickest job of expropriation. The weapons used were cheap glass beads and baubles, steel knives, firearms, treaty breaking, starvation, concentration camps, segregation, assassination and, of course, firewater and holy writ.

The Indian's fealty had always said: 'I belong to this land.' That's about what you'd expect from a dumb Indian. Our improved Price System fealty said: 'This land belongs to me.' In view of the Indian's dumb attachment to the physical Continent that bore him, you can easily see that his removal was a blessing to civilization. Of course, this land belongs to us, until erosion, waste, dust, degradation and death do us part. Yea, verily! The white man's burden grows heavy at times. We managed to bear up heroically, however. Besides, it was very good business.

After that we settled down for a long spree under the tri-color of 'free enterprise' business, politics and clericalism. We headed straight for that blue heaven of the Price System, perpetual expansion and prosperity, compounded at 6 percent.

Something New Was Added

About that time the steam engine came in. It was followed shortly by the cotton gin, the railroad and steamship. The factory system of production became possible. The first blast furnaces and rolling mills were built. Power looms, iron plows, reapers and

seed drills were developed. The American Price System began to expand. It grew like Jack and the Beanstalk. Remember what a heck of a time Jack had reaching the top of the stalk because it grew faster than he could climb. So, for a long time, the Price System expanded faster than the technology causing the expansion. Times were good. American free enterprise became the umpteenth wonder of the universe.

In the middle of this heavenly process, a slight interruption occurred. It was called the Civil War. After having thrived mightily by kidnapping Negroes from their warm habitat in Africa and selling them as slaves in the warm territory of this country, we decided to abolish slavery. We wiped out the plantation culture, struck the iron chains from the slaves' legs, imprisoned them more securely with the invisible chains of economic compulsion, and sent the carpet baggers all over the South to reorganize it along more approved Price System lines. It cost us only about 800,000 American lives.

With that righteous duty out of the way, we marched on to greater and greater Price System victories. A new series of developments came to help the good cause along. Among them were the telegraph, telephone, turbine, internal combustion motor, vulcanized rubber, the gang plow, binder, separator, tractor, artificial fertilization, irrigation and the homesteading of the west. We roared along, tearing up the Continent and leaving it in ruin behind us.

We cut the timber from Maine to Minnesota to Washington. We cut and moved, cut and moved, laying the land bare behind us to be washed away by wind and rain. We mined the soil from the Atlantic to the Mississippi and on out to the far reaches

of the Great Plains. We mined for crops and when the land yielded no more, we left it to bleach in the sun and run in the floodwaters down to the sea. We moved on to better picking. 'We built a hundred cities and a thousand towns.' The cost? It cost only about 5/6ths of America's forests and a half of her cropland.

Columbia, The Gem Of The Ocean

We came at length to the opening of the 20th Century. The frontier was gone, gobbled up by the great mass migration of big and little free enterprisers, each one bent upon chiseling out a preferred spot for himself. The Power Age was upon us. But we didn't know it. Socially speaking, we didn't know our own hind foot from a hole in the ground. Most of us don't to this day. All we ever knew, as a people, was to get while the getting was good, and damn the dopes who might hint otherwise. The rope was getting shorter, however. We were soon to come face to face with some of the hard facts of life: We were soon to learn that physical laws can't be violated. They will take their relentless toll sooner or later.

The new century witnessed a new series of developments destined to expand the American Price System still further. In came the mass production of interchangeable parts, electrification of industry, automatic mechanisms, technological processes, the photo-electric cell and electronic tube, making possible large scale operations in automobiles, trucks, aviation, ship-building, radio, television, ferrous and non-ferrous alloys, light metals, wood processing, plastics and synthetics. Alongside this came rural electrification, mechanization of farming, hydroponics and agrobiolgy.

The Power Age was upon us, but we were still rooted faithfully and

asininely in the dead past. When the depression of 1893 struck, we did not know that it was the first major oscillation of the economic system under the impact of technology. There was a 27 percent shutdown in pig iron production. We recovered and expanded to higher levels. The next oscillation of the system occurred in 1908. The shutdown in pig iron reached 38 percent. These oscillations caused financial depressions also. We noticed that and ascribed the events to the mysterious operations of money. No such thing.

The financial phenomena were a symptom of the underlying impact of technology. We did not know that, for there had not yet arrived on the American scene the Man and Organization qualified to diagnose the physical causes of depression.

Lafayette, Where Are We?

The years rolled on. Then a mastoid degenerate with a shriveled arm, sitting on a throne in Central Europe, set the world on fire. The slogan of his goose-stepping puppets was: 'Deutschland Ueber Alles, Ueber Alles In Der Welt.' Well, we couldn't take that. So, we girded our loins, went out and knocked over this Kaiser fellow. We 'made the world safe for Democracy and the rights of small nations.' Also, for the foreign investments of Wall Street. That was most important. We 'dood' it, to the tune of 'Johnny Get Your Gun,' 'Over There,' and 'Keep The Home Fires Burning.'

The home fires didn't burn brightly for very long. In 1921 we were laid low by another oscillation of the economy. This time the shutdown in pig iron was 57 percent. Recovery was slower. However, we managed it with the aid of foreign loans of the give and try to forget type. Then

came the booming twenties financed by more foreign loans, installment buying, and organized crime on a national scale. We jazzed our way through this period, deaf, dumb and blind to everything but bath tub gin, chiseling, tommy guns and stock market gambling. 'Everybody's Doing It Now.'

'Not Without Honor—'

In that Price System wilderness of 1921 there was a social scientist who knew what the score was. The man America needed had arrived. His name is Howard Scott. He spoke up and predicted what would happen. He said:

The increase in total number of kilowatt-hours resulting in increased productive power and diminishing man-hours will compel an industrial and financial crisis by 1930.

Scarcely anybody paid any attention.

Whoever heard of this crackpot engineer? Whoever heard of such nutty reasons for a depression? Every sensible man knows that hard times are caused by the mysterious behavior of money. Why, it's ridiculous! Our economists have drawn up charts going back to 1776 showing how money behaves. Our bankers know all about money. You betcha! They know how to take a buck and lend it out for 6 percent interest. Didn't one of our famous economists prove conclusively that all we needed was 'honest money.' Kilowatt-hours, man-hours, what kind of rubbish is this? On with the dance!

'Sky Red In The Morning—'

October 24, 1929, dawned like any other day. There was nothing to indicate that fate rode up over the Eastern horizon with the Sun that morning. Before it sank into the Western

sea that night \$5,000,000,000 in Price System stock market values had shrunk back into the nothing from whence they came.

America hasn't been the same since. It never will be. Technology wrote across the walls: 'You have been weighed and found wanting.' But, we hang on to the ancient and lousy Price System, like a faithful dog waiting patiently at his master's new-made grave. We hope against hope, and believe against all the facts that somehow or other master will come back to us.

Master didn't recover from the crash of 1929. As the months rolled on, the crisis deepened. Pig iron production dropped off 79 percent. Nineteen thirty, 1931 and 1932 came and went. Conditions worsened. They got so bad that a Congressman, A. J. Sabath (Dem. Ill.) was inspired to write a new psalm. Part of it went like this:

Hoover is my shepherd, I am in want.

He maketh me to lie down on park benches;

He leadeth me beside the still factories, . . .

Yea, though I walk through the valley and shadow of depression,

I anticipate no recovery, for thou art with me . . .

Surely unemployment and poverty will follow me all the days of your administration . . .

Hoover's administration ran through its dreary length. The new deal came in. The money changers were chased out on the front steps of the temple. The still factories remained still. Since nothing else could be done, the American Price System went on Government relief. It's been there ever since. The proud tycoons of finance, business and industry who had bragged

before the world of their genius stooped low down, very low down, and accepted government charity. Between 1934-1945, the U. S. Government paid out in charity handouts (subsidies) to business over \$8,000,000,000.

Taking all the farm owners and small business men into consideration, there are not quite 10,000,000 established free enterprisers in the U. S. They got the \$8,000,000,000. Relief to people in the form of made work and direct charity during the same period amounted to \$13,000,000,000. Good old free enterprise, of course, got this on the rebound. People have to eat, don't they? This \$21,000,000,000 solved nothing. It was money thrown down the rat holes of the Price System. Not a single cause of the depression was attacked, not a single solution worked out. We just drifted. By 1940 there were still 9,000,000 people unemployed.

Sieg Heil! Sieg Heil!

Then another foreign tyrant came to the rescue of the American Price System. A psychopathic, house painter, who had been a corporal in the Kaiser's army, took over Germany. He was vouched for in sanctified and respectable circles, and subsidized by the triple oligarchy in the Western Democracies. These are business, politics and clericalism. Had this Hitler fellow with his nutzy Nazis not been a screwball, all would have been well. He declared a holy crusade against the Bolsheviks. That was fine with American corporate enterprise. He went off the beam, however, and began to make passes at the vested interests on this Continent. That was too much!

So, we girded our loins again and fared forth. We knocked over Nazism, Mussolinism, and Hirohitoism. That is, we did it with the major help of

the despised Bolsheviks. They furnished most of the blood. We furnished most of the money. The capitalists of America and the Western democracies defeated the capitalists of Germany, Italy and Japan. Not once during all the carnage did our government make an official announcement that we were fighting against social fascism. Indeed, we were not. We fought for the preservation of the status quo. Political democracy vs. totalitarianism; Americanism vs. Nazism; the four freedoms vs. dictatorship, but never the people vs. social fascism. 'Tell it not in Gath, publish it not in the streets of Askelon.'

*'The Clock In The Steeple
Strikes One'*

Of course, World War 2 made a lot of business. Since June, 1940, the U. S. Government has spent over \$348,000,000,000. That's BIG BUSINESS. Such a terrific injection of purchasing power into the economy is bound to give it new life. It did. For the last six years, the American Price System has prospered as never before. Every Tom, Dick and Mary has had some kind of a job. Every chiseler has grown fat from the easy pickings. Every sucker has approached closer to the dream of all suckers to get to be a chiseler. It's no use, though. All the evidence indicates that our postwar prosperity looks like the last bright flicker of the Price System flame.

It required 10 years after World War No. 1, from 1919 to 1929, for technology to bring the Price System down. This time it may well happen in one-fifth of that time. By two years from V-J Day, or in the Summer of 1947, the American Price System will again show the symptoms of its fatal disease. This time there may be no escape. We have just about used up all our stop-gap alternatives. It's time

to pay the fiddler. What have we to pay with?

As a people, we have always tried to delude ourselves by adding up our social problems wrong. When they grew to proportions impossible to ignore, we looked at them through the small end of the glass. That is, we approached them from the wrong direction. We tried to force them to yield to the slippery propositions of politics, business and finance. It never worked, but that's all we knew. In our singleminded devotion to personal gain and social pusillanimity, we have waxed mighty in our own eyes. We stand naked now before the bar of history, charged with the responsibility to solve social problems that never existed before.

Nothing to Fear But The Price System

From where America stands today, near the end of the Price System road, two unmarked trails stretch off into the future. One goes straight ahead and one goes to the right. The road to the right leads downward into a low, swampy country. It winds downward through the dark forest of social problems that grow ever denser and more insoluble. If one travels it far enough, he can see how it circles around and finally turns back toward the past. At this point it is strewn with the murdered hopes and aspirations of men and women. Its pathway is lined with the lost causes of humanity. Every so often a signboard looms, as we plod along. The first one says: 'Believe as I believe, no more, no less.' After a while we see another. It says: 'That I am right and no one else, confess.' And so on, for dreary century after century, as we plod along the low road that leads to the past.

We perceive that this is the road of social fascism, of authoritarianism.

This is the road onto which the triple oligarchy of business, politics and clericalism wants to force the people of North America. Fascism, after having gutted the subcontinent of Europe for 1,500 years, wants to set up house in North America. It wants to attach itself to the technological culture of this Continent. It wants to cancel out the gains made by Science and Technology in the last two hundred years. It wants to divide up America's abundance with the world that its operations has laid low.

It wants to equalize scarcity everywhere and thus stabilize the status quo on a lower level of living standards. Fascism is a going backward in culture and technology. Any going backward of any type in this Power Age is fascist. We can learn nothing from the fascist past. The entire record of human history is a record of fascism of one degree or another. Today the apostles of fascism sit in high places. They are fat, smug and respectable. These are the prime movers of fascism. They can be found in every city, town and village of North America. They are of the essence of the Price System.

'Properly Ordered And Rock Solid'

The trail leading straight ahead goes upward to a higher country. There the air is cleaner, the Sun shines brighter, and the land is richer. This is the road that leads to a higher form of civilization with abundance, security, equal opportunity and physical democracy for all citizens. As we push upward, we note a signboard along the road. It says: 'Only that which can be measured is real.' After awhile we see another. It says: 'All phenomena involved in the operation of a social system can be measured.' The road continues on up until it is free from all connection in time, culture and

technology with the fascist past of humanity.

We perceive that this is the high-road of science and technology. Along its sides we see no lost causes, no murdered hopes and aspirations of men. Instead, we note monuments to all the worthwhile things of modern civilization. We note that all of them came about as a result of the advance of science and technology. We note that in the progression of this road, in the type of country it is leading into, Science holds forth promises of still greater benefits to come. We know now that this is the road into the promised land, into the dream that was America, made real.

We hurry back to the forks at the end of the Price System road where the stream of humanity is milling around, not knowing which way to turn. We want to tell everybody that this is the correct road. Upon approaching, we see that more and more people are going straight ahead. Then we notice a huge sign that says: "Technocracy is Science applied to the social system. This way, Mr. and Mrs. North America."

So, at last, the Organization as well as the man has arrived, that is qualified to point out the correct direction. After long last, after generations of chiselers, politics, robber barons, smug clerical fascists and nice people, North America has produced something worthwhile.

Technocracy has everything. It has the answer to our social problems. It has the deadly correct analysis of the Price System. It has the schematic design of a new and far better social system. This will be a non-political, non-profit, non-sectarian social system, without money and without Price. This type of social system will lift North America up to a far higher plane of civilization. Not only that, it will be the lever and fulcrum that will also lift all the world out of its ages-old morass.

If you doubt this in the slightest degree, you owe it to your own intellectual integrity and the welfare of your country to join Technocracy now and investigate all its claims from the inside.

Good Old Free Enterprise

The old gent had been in business for 40 years. He had a nice store, packed full of merchandise and plenty of money. His son was graduated from high school, and then took a four-year college course, including business administration in every detail. Finally, the son was ready to enter business with papa.

"Dad," he said, "when are you going to take inventory?"

"What do you mean, inventory?"

"Well, said the son, 'you have to know what you have on hand, what it cost you, how much for carry-over, to find out how much you have made, etc.'"

"Son," said papa, "measure that bolt of calico in the top left-hand corner of

that shelf, and figure out what it is worth. That's what I started with. All the rest of this place is profit."

The performing flea and an elephant crossed a jungle bridge together.

'Oh boy,' whispered the flea in the elephant's ear, 'we certainly made that bridge shake!'

'The forgotten man works and votes; generally he prays; but his chief business in life is to pay.' (William Graham Sumner, (1840-1910) professor of political economy and social science at Yale University.)

Never the Twain Shall Meet

The Need for Direction

By Clyde Wilson, R.D. 9140

Up to 1920, the Price System expanded at a rate of six percent per annum, doubling itself every twelve years. It was possible for this expansion to take place because wages, salaries, rent, etc., were equal to the new building and the production up to that time. We know that it is impossible to continue any system at a compound rate of interest due to the fact that there is a limit to our capacity to consume, and to the resources available. Yet the theory of the Price System is continued expansion at a compound rate. This leads us up to the question of how it is possible for the Price System to keep muddling along.

Barnum Had A Word For It

It was possible, after so-called World War I, to float bonds abroad (we are doing this now for 'our friends') and through installment buying at home, to keep the Price System going until the crash of 1929. For about three years the people were promised 'two chickens in every pot' while the bread lines became longer and longer. The RFC started to help business while the consumer continued to receive promises of prosperity around the round house. The people couldn't eat promises, so not knowing any better they took the easy way and voted for the New Deal in 1932. Not to disappoint them, the 'new deal' gave them a new deck with the same old rules.

Things were really happening. Something had to be done and fast. It was getting tough. As they say in the Army, some days you couldn't make a dollar. As predicted by Technocracy, the banks closed in April of 1933, to be opened by the government. Rather than pull rabbits out of the hat, the 'new deal' pulled letters from the alphabet. The RFC was put on a big time basis. The government ran its printing presses at full capacity to turn out enough paper to subsidize business enterprise. The

people were given a measly dole to help stimulate business somewhat. The public didn't know when it had been taken in.

By priming the pump, the Price System kept going. In 1936 there was a clamor for the balancing of the unbalanced budget. Again, as predicted by Technocracy, the Price System moved within twenty-two percent of chaos. The government hastily resumed spending. The politico-business operators of the Price System had to make some kind of excuse, so the people were told it was only a 'recession.' The WPA continued, without at any time interfering with business-as-usual. While a greater proportion of the people were ill-fed, ill-clothed and ill-housed, the basic needs of life were being stored, ploughed under, burned, shipped abroad, withheld, and dumped into the ocean. This was the Price System in reaction.

Up to 1941 conditions got worse, not better. There was no solution to the problem, and what's more there isn't now under the Price System. Rigor mortis had set in. The Price System patient was mortally ill. It needed a shot of war to prolong its agony a while longer. And War it was! Even with the declaration of war, business enterprise would not turn a wheel until the government footed

the bill for plant expansion, and furnished a guarantee of a 'reasonable profit' with cost-plus. What price patriotism? The boys were conscripted with no questions asked. Just do and die, they were told. The war took up the unemployment slack and brought lush prosperity while it lasted.

This Way, Mr. American

It is now 1947 and the forgotten war has been over for about two years. You know the condition in which the Nation now finds itself. We spent billions for war—how much for peace? At present our attention is being diverted toward a 'holy war' and away from the domestic problems. It is high time for us to find out why and for what we just fought a war, against and for, before we allow ourselves to be stampeded into not the next war—but the last war.

As Technocracy has pointed out, war was a part of the transition taking place on this Continent for some time. The conditions which existed before the war are with us now, at as ever accelerating rate. This is due to increased energy conversion, which in the final analysis is the primary cause for all social change. This Continent's technology produced more goods in time of war than at any time in its history, while thirteen million men and women were in the armed forces.

Getting back to the home front, we find that while conflicting interests bicker over the spoils, the necessities of life are being by-passed. The only role these pressure groups can play is that of trying to maintain the status quo at public expense. While these trained incompetents sabotage capacity production and distribution, a standing army, with a need for direction, has moved into the national scene demanding recognition. These people,

who have become disemployed, unemployed, migrating homeless, and what have you, are consumers, not 'me first' groups. Discontent among the returned service men and women is evident. On the horizon is the most powerful pressure group ever known in all North American history.

Government, under Price System operation, can resort only to one expediency after another, in the long run aggravating rather than solving the problem. It is only a matter of a short time before the real issues at stake will come to a head. In the meantime, government will continue to subsidize business enterprise by starting a gigantic works program, under the name of full employment, in an attempt 'to maintain consumption and industrial operation at a level to prevent the collapse of the monetary structure.'

The No. 1 need of the North American Continent is an orderly transition into a designed social operation. On this Continent, we have fifty percent of all the resources of the world. We produce sixty percent of the world's goods. Ours is a high energy civilization. We must awaken to the fact of the impact of Technology upon the Price System, and what it means. Also—its potential possibilities for all of us. We must not gear society to meet any situation, but gear it so that there won't be any situation to meet.

Technocracy has the design.

Investigate NOW!

So What?

'One out of every seven persons in the U. S. will be a war veteran by the time World War II is formally ended. One out of every four eligible voters will be a veteran. (*United States News*, October 11, 1946.)

Why I Am a Technocrat

Cry It From The Roof Tops

By Bill Raby, 8741-1

In the continuum of eternity we are nothing, in the aggregate of humanity we are few. Yet the nothing is the something of which many things may come, and the few, through their location in space and time, may have the strength of a vast multitude. For at a critical point in man's progression but one voice to give the word, but one hand to point out the correct direction may well spell the difference between barbarism and the higher civilization men have faintly glimpsed. Nothing is surer than that, if now we fall, if now we who have sighted the sun sink back to the slime, we shall sink farther than the muck from which we first rose.

They say of us that we are altruists, that we are crackpots, that we are traitors, that we are saints. They are wrong. We are none of these. We are merely men and women who have looked into the flash of fact and have been dazzled by the promise that science offers us. Though we were never again to feel the searing light of the first glimpse of fact, yet into our eyes and our minds its intelligence has been burned.

'Abundance exists.'

That is the great word. ABUNDANCE. That is the blinding report of Technocracy. Yet there is another intelligence. This disclosure, too, is engraved in our being.

'The Price System is doomed.'

This intelligence is deep within us, and we cry it ceaselessly to all who will listen. 'Abundance exists!' we cry. 'The Price System is doomed.' If the first is so, and the existence of potential abundance is a FACT, then the

second must follow as surely as a boy follows a girl.

The Price System, any social system effecting its distribution of goods and services by means of a system of trade or commerce, based on commodity valuation and employing any form of debt tokens or money, postulates scarcity. That is the reason abundance dooms the Price System. Scarcity is the Price System's only reason for being. Without scarcity, the Price System fails.

Why? In the Price System, two factors determine the price of any given object. The first of these is supply, which is the amount of the commodity available. The second is demand, which is a compound of desire or need for an object, and ability to buy. Desire or need alone is not demand. Ability to buy alone is not demand. The two must go together.

Further, in the Price System, if the supply is small and the demand great, the price rises. Contrariwise, if the supply is great and the demand small, the price drops. The condition of small supply and large demand is the perfect one for the Price System. The ultimate development of that ideal is perfect monopoly. The opposite condition is anathema. Large supply and small demand spells disaster.

Yet the condition of large supply and small demand is the one the Price System faces. With more goods for less work, the System faces the ironic probability of 'overproduction,' in the sense that there will be no buying power to absorb output, on a continent, where most men have never yet been adequately fed, clothed, or housed.

The Price System remedy is artificial scarcity, the scarcity of the New Deal with its payments for not producing, the scarcity of monopoly which produces less to profit more. But that is the only way that the Price System can survive. So long as the Price System exists, that is the only type of remedy that will be applied to the physical ills of man.

Again, why? Why, because there can be no value in the Price System without supply and demand interacting. And if the supply increases so that it is out of all proportion with the demand, price completely disappears. Air is a good example. It is vital to life, hence the demand probably is large. Yet the supply is, for practical purposes, unlimited. What is the price of air?

So it is in every field, the greater the supply, the less the price, and the less the supply, the greater the price. Thus the Price System remedy is to decrease supply, either through restricting production or destroying output, even though the restriction may be called recession, and the destruction war.

But a system operating in a fantasia smashes into trouble every so often. In fact, the Price System on the North American Continent, trying as it is to distribute scarcity in the middle of abundance, is smashing itself apart. You just can't work it. You can't drive through California by using a New Hampshire road map. Get the idea?

It's the same thing with the Price System in the middle of abundance. You can hang onto it, but the trouble is that the Price System road map is turning one way while the real road actually goes another. And the way the map shows, the way the Price System blindly goes, is right smash-bang over a cliff!

That's the thing we Technocrats see. And we think that when the Price System has the country tottering on the brink of disaster, we'll be able to show the people that they've been following a map that doesn't deal with the world as it is. And we'll have a map to offer them, a map that does fit the country we're traveling in.

We're not doing it because we're little plaster saints. If the Price System smashes everything, we go smash with it the same as everyone else. And if the new road is a lot smoother, why it's just as much smoother for us as for anyone else.

And besides that, there's the feeling of pioneering a world of abundance, the same urge that makes a fellow sacrifice to send his kids through college, the hope that the future will have more than the present.

Yes, to eternity we are nothing. In the diverse ranks of mankind, we are few. Yet we who know and work may do the simple task of throwing the switch that flashes on all the lights of a brighter world. Others have built it, and others will operate it. Yet to us, and on us, because we live these crucial events in this space and this time, devolves the responsibility for throwing the switch or condoning through our negligence and apathy the greater darkness that will descend.

For if we who have sighted the sun sink back to the slime, we shall sink far lower than the muck from which first we rose.

That's why I am a Technocrat!

In Three Volumes

'As for Marx and Engels, they were unable to foresee what would happen 40 years after their death.' (Prime Minister Joseph Stalin of the USSR in an interview with Harold E. Stassen at the Kremlin in Moscow, on April 9, 1947.)

E—MC²

By Stuart Chase

This article is reprinted from the *Survey Graphic* of May, 1946, with permission of the Twentieth Century Fund. It was taken from Stuart Chase's latest book entitled, "For This We Fought," published by the Twentieth Century Fund.

DURING the war, scientists developed 2-4-D, for the extermination of weeds, DDT for insects, 1080 for rats, and $E=MC^2$ for men.

Professor Einstein gave us the last in his theory of relativity forty years ago, but it remained for the Manhattan District project to demonstrate the complete reliability of the formula. 'E' stands for energy in kilowatt hours, 'M' for mass in kilograms. 'C' is the speed of light—186,000 miles a second—neatly verified again, as you know, by the 2.4 seconds it took to bounce a radar beam off the moon. The square of 'C' makes a very tidy sum.

When a chain reaction is set up in M, the resulting energy released becomes something which only the survivors of Hiroshima and Nagasaki can adequately report on. Furthermore, these chains were *not* carried all the way out per formula. The fission effect stopped relatively early. Already, it is said, atomic bombs have been produced which are one thousand times as destructive. Already, New York could be ripped apart from the Battery to Central Park in one shuddering cataclysm.

Or, put another way in terms of peacetime uses: By the ordinary burning of 2.2 pounds of coal we now get 8.5 kilowatt hours of energy. As Henry D. Smyth brings out in his 'Atomic Energy for Military Purposes' (Princeton University Press, 1945), the formula 'shows that one kilogram (2.2 pounds) of matter, if converted

entirely into energy, would give 25 billion kilowatt hours.' That is the equivalent of the entire electrical power consumption in the USA for two months in 1939.

So mankind reaches its third, and perhaps its last, great landmark. First came the discovery of fire, next the development of agriculture, now the release of atomic power—and after a million years on the planet the creature called man has either mastered his environment or caused it to destroy him.

Let us retrace our steps a bit—with the help of William Howells in his 'Mankind So Far' (Doubleday, 1944):

In the late Tertiary epoch (7,000,000 to 1,000,000 B.C.) anthropoid apes roamed over Asia, Europe and Africa, some of them rather man-like. One branch in Asia finally came down out of the trees and began walking erect. It had a big brain for an ape, and of course an opposed thumb with which to manipulate things, sticks, axes, someday cyclotrons.

Three Landmarks

1. In the Lower Paleolithic epoch (1,000,000 to 50,000 B.C.) this creature invented fire (the first landmark) and progressed radically in the reduction of the weight of his skull and jaws. In due course, a race evolved not far different from the Australian bushmen of today. First axes, choppers, and other crude tools were made from flaked stone. Hunting was the

chief economic occupation. The brain case grew larger. Language probably developed along with the first tools. One needs to explain how to use a tool to one's fellows—a thing no ape can do.

The Upper Paleolithic (50,000 to 10,000 B.C.) brought a great advance in stone-working. Experts could strike off a long, fine flake from a core and out of it made knives, arrowheads, spear points, files, awls, scrapers, with which to work wood, skin and bone. Later came the dog and the bow and arrow; then canoes, netting, basketry. Modern Eskimos, where uncorrupted by the white man, live a life similar to the Upper Paleolithic. It was still a hunting and fishing culture, with a world population, Howells estimates, of not more than 10,000,000. That was about all the environment could support with the techniques then available.

2. The Neolithic Age (beginning around 10,000 B.C.) inaugurated the second great revolution in the history of *homo sapiens*. This was on the Persian Plateau, on the bridge between Asia and Europe from which have come the headlines of postwar clashes these months. Man discovered how to domesticate plants and animals. *For the first time a settled community became possible.* No longer was it necessary for nomadic families and clans to follow the migrations of wild animals for food. People could hoe a garden with a forked stick, milk a goat, and stay put. It is impossible to overemphasize the importance of this progression.

With the Bronze Age (about 5,000 B.C.) a pair of oxen yoked to a metal plow could so improve the efficiency of bread production, that a large percentage of mankind could be permanently released from the fields. Cities became possible. The first we know of was Harappa in India; then Ur and

Kish in Mesopotamia; Thebes, Karnak in Egypt; the cities of ancient Crete, and so to Troy, to Sparta, Corinth and Athens of the Greeks. With the cities came kings to rule over them, priests to pray for them, artisans and silversmiths who never laid hand to plow, markets, trade routes, galleys, prostitutes, pyramids, temples, tenements and slums—and most important of all, came writing, mathematics, and the concept of science.

By 1600 A.D., the population of the world had increased to perhaps 400 million, and Galileo laid down first principles for the machine age. By the time the atomic bomb was dropped in a New Mexico desert, population had increased fivefold to two billion. This growth was made possible by inanimate energy and the factory system, together with the control of communicable diseases. To go back now to the Paleolithic Age would cost the lives of perhaps ninety-five out of every one hundred living persons.

3. The destruction of Hiroshima on August 6, 1945, is the third great landmark in the history of mankind. The way now lies open to the pulverizing of all cities everywhere, as General Arnold demonstrates in his final report. The way also lies open to unprecedented increases in production, living standards, public health.

Howells does not believe that man will entirely destroy himself through cataclysm—but he wrote before the bomb. *Homo sapiens*, he says, is one of the toughest, most tenacious, most adaptable of all the animals. He is still largely unspecialized for a given environment—which is a great advantage, as compared with highly specialized animals like the giraffe or the ant eater. But even man could hardly adapt himself to perpetual explosions.

What the bomb does is to threaten

our cities and thus printing, science, the humanities. People would no longer have time to think. Atomic fission, unless it wipes out all land life, will not entirely destroy man; it will just pitch him back 100,000 years or so into the Paleolithic. As we have seen, it has been quite a haul up from there . . .

Sometimes one wonders if we ever went through this same cycle before and then crawled back and up.

To Make Us Aware

The physical world has a certain structure. The physical scientists have now learned to understand it—not completely, but enough to tear the fundamental building blocks apart. They have done this by a vast project of planned cooperative research, covering five years and costing \$2,000,000,000.

On the other hand, the world's political and industrial leaders are not scientists; most of them never went beyond simple algebra. But it is of the utmost importance that they respect, and understand in a broad way, what the scientists have done. Otherwise we are led by men who do not know the shape of the world they are trying to lead or the forces now loose within it.

Not only must leaders exercise their brains to an unwonted degree, but they must exercise their imaginations. They have got to see the unearthly glare, feel the shattering crunch as energy is released in these magnitudes. That mushroom of cumulus smoke in the stratosphere must be ever before their eyes. They must see, hear, smell, feel—almost taste—a chain reaction; it should be etched forever in the nervous system.

If the bomb is considered as just another element in power politics, just another military weapon, only stronger, the Paleolithic Age surely awaits

us. Atomic fission simply is not that kind of event. Our leaders must come to see it in its true dimension, a blinding, shattering force, ranking with the discovery of fire and the discovery of agriculture. In such perspective they may be able to deal with it. Is there any way to give them such perspective?

Continuous Exhibit

We never learn from words, speeches, books, by themselves. A human being must first experience light rays, sound waves, sensations striking his nervous system, before he can speak or think intelligently about the things to which the sensations refer. From such direct contact, his whole mental world is built up. After enough contacts, words and books can become meaningful.

Most scientists keep this direct contact, unlike the academic scholars. Many of the latter labor under a punishing handicap of abstract words unconnected with space-time events. The philosophies and the dialectics go round and round without hitting anything. The great strength of the scientists is that they admit their talk is meaningless, and their conclusions invalid, unless these *can pass the test of physical experiment*. If the results of the experiment are positive, the talk makes sense.

Galileo ended two thousand years of portico philosophy—where it was solemnly affirmed that heavy bodies would fall faster than light bodies—by dropping light and heavy bodies from the leaning tower of Pisa and timing the fall. He found they arrived together.

Why Not All Leaders?

But why not carry the idea of firsthand experience much further? Why not expose *all* the outstanding leaders of the world to a direct chain reaction?

Let them stand there and watch. If a few get a little too near and are knocked over—like those extra-curricular scientists in the New Mexico desert—that is all right, too. Protect them from lethal rays, but let them get knocked over. That is what they came for.

Furthermore, there should be regular exhibits, say every six months, in the Sahara, the Gobi, Death Valley, and other arid areas of the world. We never knew quite what to do with deserts before. Now we do.

Many of our leaders have had legal training. Thomas Reed Powell, of the Harvard Law School, once observed: 'If you think that you can think about a thing, firmly attached to something else, without thinking of the thing it is attached to, then you have a legal mind.' One would feel safer if all leaders had to pass an examination in simple mathematics, in distinguishing clearly between a fact and a generalization, in the scientific attitude—and so could avoid the verbal habit of proceeding from an unwarranted assumption to a foregone conclusion.

If it turns out too much to ask a congressman to demonstrate his ability to move logically from cause to effect, then we had better draw our congressman from a different panel. A politician is *not* a scientist, and no one should ask him to be, at least until the social sciences have developed much further. But, in the atomic age, the politician should be acquainted with the scientific method, and should know which way the scientists are steering the human race. He should realize that cause-and-effect relationships exist also in human affairs, and that no real control is possible without understanding them.

The Rank and File of Us

For those of us who are not top leaders, for the rank and file of literate humanity, the schools and press

should place far more emphasis on mathematics, logic, semantics, straight thinking, and the scientific attitude.

How many of us can state clearly what constitutes a controlled experiment? Small children begin by thinking pretty straight, because of their firsthand experience with a bumpy world. Later they are deluged with high order abstractions, and their pristine approach to the laws of cause and effect is corrupted.

All of us, furthermore, should see such moving pictures or stills of Hiroshima and Nagasaki as are available, from either American or Japanese sources. We should see the dead, the wounded, the smashed hospitals, the agony. These should be run in every theater in the world at regular intervals, without soft music, without announcers who coat their vocal chords with honey. We should take these horrors straight, hard and unvarnished. If anybody faints, that is all right too.

Movies are not as good as seeing the real thing, but they get into the nervous system after a fashion, and leave a sharper imprint, for most people, than words can ever do. Thomas A. Edison used to say the shortest route to the intelligence runs over the optic nerve.

All theaters should also show documentaries of the navy tests, the Sahara; of all future chain reactions in bombs. We can't all be leaders and be there in person; but on the screen the rest of us can be present at one remove—seeing and hearing, but not quite feeling, the total event.

Then there should be frequent documentaries of the development of atomic energy, with moving diagrams tracing the principles involved, so far as they can be simplified. We should see the uranium mines, the piles, the shields, the new power units. We should be taught what inspection means.

Moreover, we should see medical diagnosis by virtue of the new rays, cancer research, heat therapy—all the good and cheerful aspects of nuclear fission.

Running Away vs Facing Up

Talk, editorials, columns, dissertations like the one I am writing, are not going to help much. The words are already wearing out. We must constantly be shocked into awareness—as when lightning strikes close by. Only firsthand experience or its equivalent can hold us to the task of saving our civilization.

If the social scientists can refine and sharpen this approach, the world will be profoundly grateful. But they can do more than that. They can help our legislators draft the machinery to control the bomb. They can help break up the unfounded notion that man has an instinct for war. He has a pugnacious instinct, which is very different, as Julian Huxley has amply demonstrated. War is a cold-blooded business of organization. Look at the Pentagon building.

Marjorie Laurence Street in *The Ladies' Home Journal* for February analyzed the ways in which many people are beginning to escape from this discipline of reckoning in an impractical fashion with a supreme discovery. To telescope her list:

'Let's not talk about it.'

'The higher-ups will solve it.'

'A defense will be found; it always has.'

'They won't dare use it.'

'The USA can stay ahead of all enemies.'

'Anyway, we're keeping it secret.'

'We've never lost a war.'

'We all have to die sometime.'

'You can't change human nature.'

'I'll be dead by then.'

'We ought to bottle up those scientists.'

The idea that I advocate is to shut off these infantile escapes, and try to look our destiny in the face.

For This We Fought

Sooner or later this moment had to come. It has been inevitable since mankind came down out of trees and shaped the first axe. *Homo sapiens* is the kind of animal which was bound to be curious about the structure of the world around him. Now he has found the answer, or a large part of it.

Has he found it too soon? That is a meaningless question. Nobody knows, or can know, whether it is too soon, until the proposition has been demonstrated. If a handful of us wake up some stormy morning to find ourselves in the Lower Paleolithic, we can conclude it was too soon.

Until then, it is our duty to try and meet the challenge.

If enough of us can become aware of what has happened, our generation should not have too much difficulty in devising a piece of international machinery adequate to contain Einstein's equation. There will be stiff problems of inspection of uranium and perhaps thorium deposits; also graphite, beryllium, heavy water; centrifugal blowers to keep track of, electromagnets and large power installations for the conversion of plutonium. These are all secondary matters, however. The physical scientists, who are showing the most gratifying terror of what they have done, can be trusted to handle such details. Technically, these do not compare in difficulty with the Manhattan project.

The real problem is to get the rest of us as intelligently alarmed as the scientists. Then we will push and push—and an appropriate solution will be found

Then our young men will not have fought and died in vain.

Where Is My Boy Tonight?

Current Legend, 2700 A.D.

By Sam Pavlovic, R.D. 9344

Humpty Dumpty sat on a wall,
Humpty Dumpty had a great fall;
All the King's horses and all the King's men
Couldn't put Humpty Dumpty together again.

It seems back in the dark ages of about 1948, strange phenomena occurred throughout the land. The Hewers of Wood and Drawers of Water suddenly turned into statues of stone. At the same instant all of the Real Thinkers of the land disappeared mysteriously into the side of a mountain.

Now, the Money Changers, the Politicians, the Medicine Men, of the Higher Temples and their Retinue viewed this in great alarm. After their initial pangs of panic abated and the realization came that they had been spared, they summoned a conference. Their first decision from long habit was to try to get the Hewers of Wood and Drawers of Water back to a normal physical condition. All of their subsequent chanting and ranting was to no avail. The statues remained statues. (Stone is very unemotional. Some silly scenes must have occurred here.)

Now, one of the more imaginative of the Medicine Men suddenly came forth with a completely new and revolutionary thought. (They say that the complete strangeness of this effort prostrated the fellow.) He reasoned that the Real Thinkers were the boys to solve this problem. (This was pretty fair reasoning, insofar as the Real Thinkers were the only ones who had ever solved any problems down through the centuries.)

When the logic of this soaked in,

the Money Changers, Politicians, Medicine Men and their Retinue hot-footed for the mountain in the hope of succor. All their ensuing efforts were in vain. Prodigious pleadings and probings failed even to bring forth a hint of the Real Thinkers.

These gentlemen of the Status Quo now came to the realization that they were on their own. The subject of social reorganization was delicately avoided as the hottest of hot potatoes. Furthermore, they were well aware that an ascent to the status of Real Thinking was a biologic impossibility for them. Pompous pride of pampered principle forbade any social descent. Even though the Carriers and Hewers in reality had merely been lever-lifters and custodians of the mechanical slaves, their tasks represented an insurmountable barrier to untrained minds and unwilling backs. The Medicine Men at this point cast significant glances at their Retinue who, in turn, after some oblique, nervous glancing of their own, slunk away at the first opportunity a la jakal style.

Now, in a very short time, this social disarrangement began to bear fruit. Values suddenly turned upside down. Here are just a few examples. A ticker-tape salad garnished with shredded one-thousand dollar bank notes had no more vitamin value than one garnished with dollar bills. Gilt-edged bonds and first mortgages were found to be quite inadequate in stop-

ping leaky roofs. Beef boullion superseded gold bullion. (Ah, the proper biologic chronology was shaping up.) Law books and texts on philosophy were found to be poor building blocks. And, of course, the platforms of political promises couldn't even provide good kindling wood, much less support anything.

Misery loves company, so the saying goes, but not in this instance. The Money Changers and Medicine Men fled from the company of the Politicians. (It sure is tough when there is no audience.) The Money Changers had nothing to sell, and nobody to fleece. From force of habit a goodly number of them spent their time counting their useless debt tokens. The more sardonic type amused them-

selves by throwing hard money at the stone statues.

The element known as hard-headed business men had the opportunity to make use of their peculiar talent. They hiked back to the mountains in the hope of bringing forth the Real Thinkers. Time and again they charged the mountain, a la billy goat, but it stood fast, and brought forth nothing. The Medicine Men simply had nothing to do, and wandered in and out among the stone statues with a vacant stare. Some of the more talented were observed counting the number of statues. In the meantime, the only intelligent utterance came from a Politician, who immortalized himself by saying, 'Brother, this is really Hell!'

Pass the Murphies, Please

Before the war the average consumption of potatoes was 131 pounds per capita. During the year ended June 30, 1946 this dropped to 127 pounds per capita. The potato crop in 1946 was a whopper, about 500,000,000 bushels. There was a 100,000,000 bushel 'surplus.' Every device in the book was used to get rid of the 'surplus,' including dumping out on the ground to rot. One might ask why the sanctified 'law of supply and demand' didn't operate in this case and lower the price of potatoes. If it had been allowed to operate just a teeny weeny bit so as to raise the per capita consumption by 4 pounds to get it back to the prewar level that would have consumed 568,000,000 pounds of potatoes. That would have made an awful hole in the 'surplus.' But, no, that's not how the Price System operates these days. The government now supports the price. It paid \$2.20 a hundred pounds for the 100,000,000 bushel 'surplus' so that John Farmer would not suffer economic loss. Recently the agricultural department offered to sell 'sur-

plus' potatoes for commercial export at 5c per hundred pounds. So far, it has managed to get rid of only 5,000,000 bushels. The prospects are for a bumper crop again in 1947. If conditions are favorable there will also be a bumper crop in 1948. Reason? The Steagall amendment which guarantees 90 percent of parity price to farmers runs until December 31, 1948. John Farmer will never pass up a good thing like that.

'The problem of commodity surpluses again is confronting the world. Some are already here. Others are on the horizon. They are already giving serious concern to government-planners in many countries. Reason for this concern is that, in the past surpluses of such major commodities as wheat, wool and rubber have led to unemployment and financial disaster for millions of people in many countries. Crude attempts to prevent such surpluses have sometimes led to monopoly, high prices and trade restrictions.' (World Report, May 13, 1947.)

Old Concepts or New Designs

Hitch Your Wagon to a Rising Star

By F. C. Glenn, R.D. 8931

'How free are we today—from war, pestilence, earthquake, volcano, fire, sickness, idiocy, imbecility, pauperism, crime, squalor, shipwreck, stupidity, ignorance, superstition, famine, disease; from accidents of mines, factories, railroads, automobiles and airplanes; from harsh sounds, bad air, and foul odors; from scorn, malice and intolerance; from vested interests and established opinion in church, school, and government in home, society and nation; from clocks, timetables and calendars; from the decrees of fashion, the convictions of the mob, the mandates of the politicians? In short, how free are we of the ox goad and the treadmill? . . .

'Why is man not as free as he might be? Because his mind is made up; his pride of opinion outweighs his desire to know; he dismisses realities with a "God's in His Heaven—All's right with the world," and neglects the first lesson he ever learned—which is, that he can learn. Because he refuses the dare thrown to him by nature herself: Know thyself; and refuses to heed the warning written across every page of history and strewn across the face of the earth itself: . . .

'The human being that can learn no more has parted with the only priceless possession in human inheritance. The men, women, or nations that harden in their mold, get set in their ways, crystallize their opinions and beliefs, and swear by and live according to their routine habits—such men, women or nations are old; senile decay is at hand.' (George A. Dorsey, anthropologist, in his book 'Why We Behave Like Human Beings.')

Low Road or High Road?

In this viciously competitive Price System, which has developed crime, debt, malnutrition, insecurity, poverty, ignorance, and internal strife, the factors which in the end reap disintegration, there is a fundamental battle between hand tool scarcity and machine tool mass production; between the science of today and the obsolescent concepts of the dead past; between the change of tomorrow and the status quo of yesterday. To survive in tomorrow's change man must learn to think in broad new terms, by measurements hitherto beyond the reach of his conceptions.

Where man finds no answer, he will find fear. Where he finds no answer, he becomes an escapist, running from the figments of his own brain, afraid of the synthetic fears concocted

in his own imagination. He shirks his responsibilities, travels the way of senseless vagaries of emotional stupidity, arrives at a dead end and finds no way out.

Traveling the way they feel about things, such emotionally misdirected individuals feel insecure and are not well adjusted to life. Such persons fear and hate most readily and try to offset their fears with hopes, arguments, rhetoric and fancy ornamentation. Fear, hate, and hopes are the ingredients for the sterility of defeat and have the qualities for breeding suspicion, perplexity, and mistrust. It is here that man should halt, giving himself the severest scrutiny, and endeavor to remove his own greatest obstacle in achieving the answer.

After removing the emotional approach, mental hazards, the self sufficiency of egotism, false claims, and

false criterions, along with the sublimation of self adulation, the answer can be found through accurate observations, precision measurements, and scientific investigation. It cannot be found according to this wish or that wish! It does not operate this way or that way because the way we feel induces us to want it that way, but because the job to be done determines the way it must be done. When things are brought together in proper relationship, the principle automatically attaches itself.

Let the Facts Decide

Recognition of the facts, and awareness of facts alone, makes it possible to arrive at the answer. Any moronic approach leads to confusion and futility. There must be harmonious conformity in the requirements of the job, for the measurements brook no opposition. The answer is exact, inflexible, adamant, and lies in the physical relationships. The changelessness of physical laws dictate that principle shall constructively reside where the relations are harmonious. The same laws decree that principle destructively rebels and shall not serve incorrect relationships.

The accomplishments of the scientist and all human progress, in addition, depend upon accurate measurements, correct calculation, directed effort, and his ability to understand and

measure the forces and materials he is dealing with. When he has learned what to expect from his observations of previous performances and inherent characteristics of the forces and materials, then he is ready to proceed; and from there on out, he can predict with reasonable certainty what these forces and materials will do under certain conditions.

All disputes recede into the background where the answer automatically exhibits itself in the agreements among investigations conducted by men. The wishful thinking individual may well consider that it is only the moron who will accept dictation from another moron, the end product being futility. Whatever our future is to become, it must proceed from what we have here and now, not what we wish we had. You may cry back to nature all you please, but the scientist answers 'forward to laboratory and the machine,' the way to security and abundance for all.

Technocracy has the knowledge, the organization, the Continental design. The rest is up to you—the American people!

Have you the capacity and the courage?

Nature says 'Know thyself.' Technocracy supplements by saying 'Know Your America!'

Investigate the Facts! And Join Technocracy Now!

Off With the Old Love

'Evolution of our civilization has only progressed by constantly discarding the old for the new, no matter how temporarily painful or injurious to the existing generation. The overall welfare of society must always transcend that of fragmentary groups, and it would hasten

the world's progress if each generation would consider the welfare of those to follow.' (A. B. Sparboe, President Overseas Division, Pillsbury Mills, Inc., in a talk before the Chicago World Trade Conference, February 17, 1947.) As quoted in *Commerce* magazine, March, 1947.

Footprints in the Sand

Report On A Celestial Interview

By Bill Raby, 8741-1

All quoted material in the following interview is direct quotation from published material of the two persons involved.

The crinkly-eyed man with the sloppy brown VanDyke beard perched easily on the cloud. The sheaf of paper in his hand was blank, and his pencil was sharp. But he didn't doodle. He just sat quietly, patiently watching the shadowy outline of a door which hung motionless in the otherwise empty sky.

Gradually, a shape formed in the doorway. At first, it was only a vaporous hint. The bearded man on the cloud pushed back the stringy hair which persistently fell over his eyes, and peered interestedly as the shape in the doorway took substance.

Tall, and looking even taller, because of his thinness, the slightly slumped figure in the doorway weakly smiled. Wispy white hair, and skin of almost parchment texture, told of having lived to great age, while the well-fitting brown business suit spoke of a properous life.

The man on the cloud stroked his bushy moustache, and spoke words—comforting words, spoken slowly, painstakingly, with a steady tempo accentuating the slight Scandinavian drawl. He said that Henry Ford had been a great man, an admirable man, and he was welcome to this place, this one stage in a longer journey. Then he rubbed his lightly flattened nose with the side of the pencil, and with a half-visible cynical smile asked if Henry Ford would say a few words

on what he thought of the world he had just left—just a few words for the Eternal Record..

Though he slumped where he stood, when the thin man in the doorway spoke, his voice was incisive. 'We are in the great age of transition from the drudgery of life to the enjoyment of life.'

The man on the cloud derisively smiled. As he scratched words onto the paper, he slowly muttered: 'The democratic nations have taken over in bulk the whole job-lot of vested interests and divine rights that have made the monarch of the old order an unfailing source of outrage and desolation. The same items will foot up to the same sum.'

The thin man nodded disagreement. 'Today we already have enough tested ideas which, put into practice, would take the world out of its sloughs and banish poverty. The economic basis of prosperity is always present. But men must be led into prosperity.'

The man on the cloud smiled tolerantly. As he wrote, he seemed to weigh the words of the other. 'Men led into prosperity? In the last analysis it is the frame of mind of the common man that makes the foundation of society in the modern world.'

The man in the doorway hesitated, as if unsure of his next words or unwilling to say them. 'Labor works along under any system,' he finally said reluctantly. 'But industry must have generalship—and of a high order. Most of the so-called "economic" problems would be completely solved if industries were managed by men who know industry.'

The man on the cloud nodded agreement. As his sharp pencil raced across the page, he observed: 'Under ordinary conditions of businesslike management, production is one-fourth of the industrial community's productive capacity.'

The figure in the doorway sadly agreed. 'A business cannot serve both the public and the money power,' he added. 'Money is not business. Money has nothing to do with the quality of the article which is manufactured, nothing to do with the output. Industry is not money—it is made up of ideas, labor, and management, and the natural expression of these is not dividends, but utility, quality, and availability.'

The man on the cloud smiled too gently. 'Under corporate management it rarely happens that production is pushed to the limit of capacity,' he reminded again.

Henry Ford straightened, and his face took on a deep sternness. 'Industry exists to make things that people use.'

The man on the cloud chuckled. 'The business men have always turned the technologists and their knowledge to account only so far as would serve their own commercial profit, not to the extent of their ability; or to the limit set by the material circumstances; or by the needs of the country.'

Henry Ford nodded reluctant agreement. 'The real meaning of power and machinery is that it was brought into this world to free man, not to enslave him. There is a new morality. Morality is doing the sound thing in the best way.'

While he continued writing, the man on the cloud mused aloud: 'With the continued growth of specialization the experts have necessarily had more and more to say in the affairs of in-

dustry; but always their findings as to what work is to be done and what ways and means are to be employed in production have had to wait on the findings of the business managers as to what will be expedient for commercial gain.'

Eagerly again, Henry Ford spoke: 'The old idea of business, that it consists of one man getting the better of another man, is no longer acknowledged as businesslike even by those who practice it. A great modern industry progresses by the unified thought and energy of many men. Theirs is a cooperation based on common interest in the job to be done.' As if the exertion of speaking had tired him, he slumped against the doorway. His wispy white hair shifted gently as he dazedly shook his head.

The bearded man on the cloud laid his notepaper down. 'A great modern industry progresses by the unified thought and energy of many men,' he repeated approvingly. 'If the country's productive industry were completely organized as a systematic whole, and were then managed by competent technicians with an eye single to maximum production; the resulting output of goods and services would doubtless exceed the current output by several hundred per cent.'

Slumped in the doorway, Henry Ford started to fade, to pass further on into the nothingness of eternity. 'The old tricks have failed,' he sadly admitted. 'The old wisdom has proved foolishness. The old motives are ineffective. When the function of any industry is to produce dividends rather than goods for use, the emphasis is fundamentally wrong.' Practically one with the transparency of the empty sky, his voice sounded hollowly from the now empty space in the doorway: 'Engineering science is the enemy of shortsighted finance.'

The figure on the cloud slowly

tucked his note paper into the pocket of his grey suit. As it completing the train of thought, he drawled mumbly, in that Scandinavian mutter of his: 'The technology requires the use of trained and instructed workmen, and a corps of highly trained and specially gifted experts. Born, bred, and trained at the cost of the community at large, they draw their special requisite knowledge from the community's joint stock of accumulated experience.' He paused, and returned the pencil to his vest pocket. 'The material welfare of the community is unreservedly bound up with the due working of this industrial system, and therefore with its unreserved control by the engineers, who alone are competent to manage it. To do their work as it should be done these men of the industrial general staff must have a free hand, unhampered by commercial considerations and reservations; for the production of the goods and services needed by the community they neither need nor are they

in any degree benefited by any supervision or interference from the side of the owners.'

Then Thorstein Veblen strolled slowly through space to the doorway hanging motionless in the emptiness. The man who Henry Wallace said 'more than any other economist in his day saw the inevitability of many of the things that are now happening . . . (and . . . planted many seeds which will inevitably have a profound effect on the future of the nation' strolled through the open doorway. He, of whom Ernest Sutherland Bates said, 'out of an entire generation of political and economic thinkers, he alone produced a body of thought that lives on,' faded into nothingness.

Thorsten Veblen, former editor (albeit of an economic journal), had an interview to write up. Henry Ford had been an important man, and his measured opinions would be of great interest to the celestial audience.

Operation Americana

Senator Albert W. Hawkes (Rep. N. J.) recently pointed out in a talk in the U. S. Senate that a handful of people have controlled the U. S. Government all down through its history. The nation was established 171 years ago. The population is now 142,000,000. During the intervening years since 1776 other millions have lived and died. The percentage of this vast host that have controlled the Federal government has been infinitesimal.

There have been about 10,000 representatives in Congress, 8,500 in the House, and about 1,500 in the Senate. There have been 32 Presidents, 70 justices of the Supreme Court and only 12 Chief Justices. Said Senator Hawkes: 'The astounding figures I have quoted

should impress us with the responsibility that rests on our shoulders.' (*Labor*, April 26, 1947.)

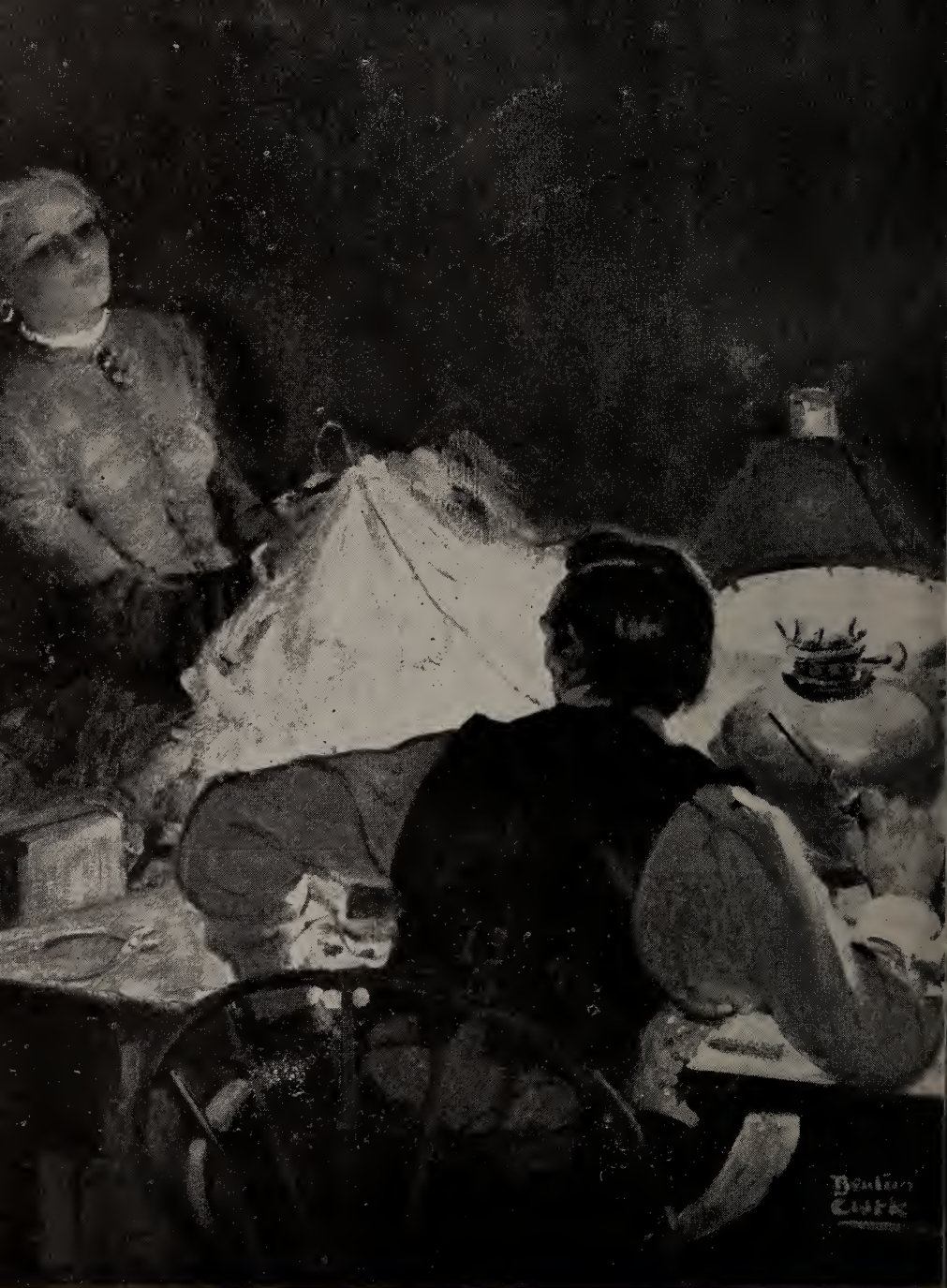
'I have figured out that, judging from the amount of furniture brought over in the Mayflower, the boat was slightly more than five miles long.' (W. C. Fields in the *American Freeman*, January, 1947.)

'In the early history of the world it was thought to be flat, then it was found to be round, but now we'll be darned if it isn't crooked.' (*Progressive World*, March, 1947.)



Photo: Mammoth Tree Shears Co.

The old way of falling trees was mostly muscle and a little head work. With the new way you have very little muscle but a lot of technology. The tree shears shown will cut down trees up to 24" diameter at the rate of 5 per minute. Leverage for cutting comes from push of tractor against tree. All factors must be tested and added correctly. That's the only way technology will work.



Bentley
Clark

Photo: SKF Industries Inc.

The first electric motor ever made. Thomas Davenport, Vermont blacksmith, went to town one day in 1833 and saw one of the first electric magnets. He bought one, thinking he could use it to propel machinery. In building a larger model he ran out of silk for winding. His wife came in with her wedding dress. So, the story goes. Davenport, unsung hero of technology, deserves a good story.



Photo: Bureau of Reclamation

It's a long way from Davenport's home made motor to these monstrous steel turbine shafts turning overhead generator's at 'Hoover' Dam Power House. This is a real story and it happened in the space of one long lifetime. Beliefs made no social changes in 7,000 years. Science did, in a short time. Science is not beliefs. It's a testing and adding of factors correctly. It's measurement.



Here is a giant wheel for the XB36 Army bomber. The tire that goes around it is over 9' high. Total wheel, brake, and tire assembly weighs 2 tons. The small wheel the young lady holds with brake and tire assembly, weighs 15 lbs. Big or little, it's all the same to technology. Science invades every field except that of social problems. But, it won't be long now. It better not be.

Photo: Goodyear Aircraft Corporation

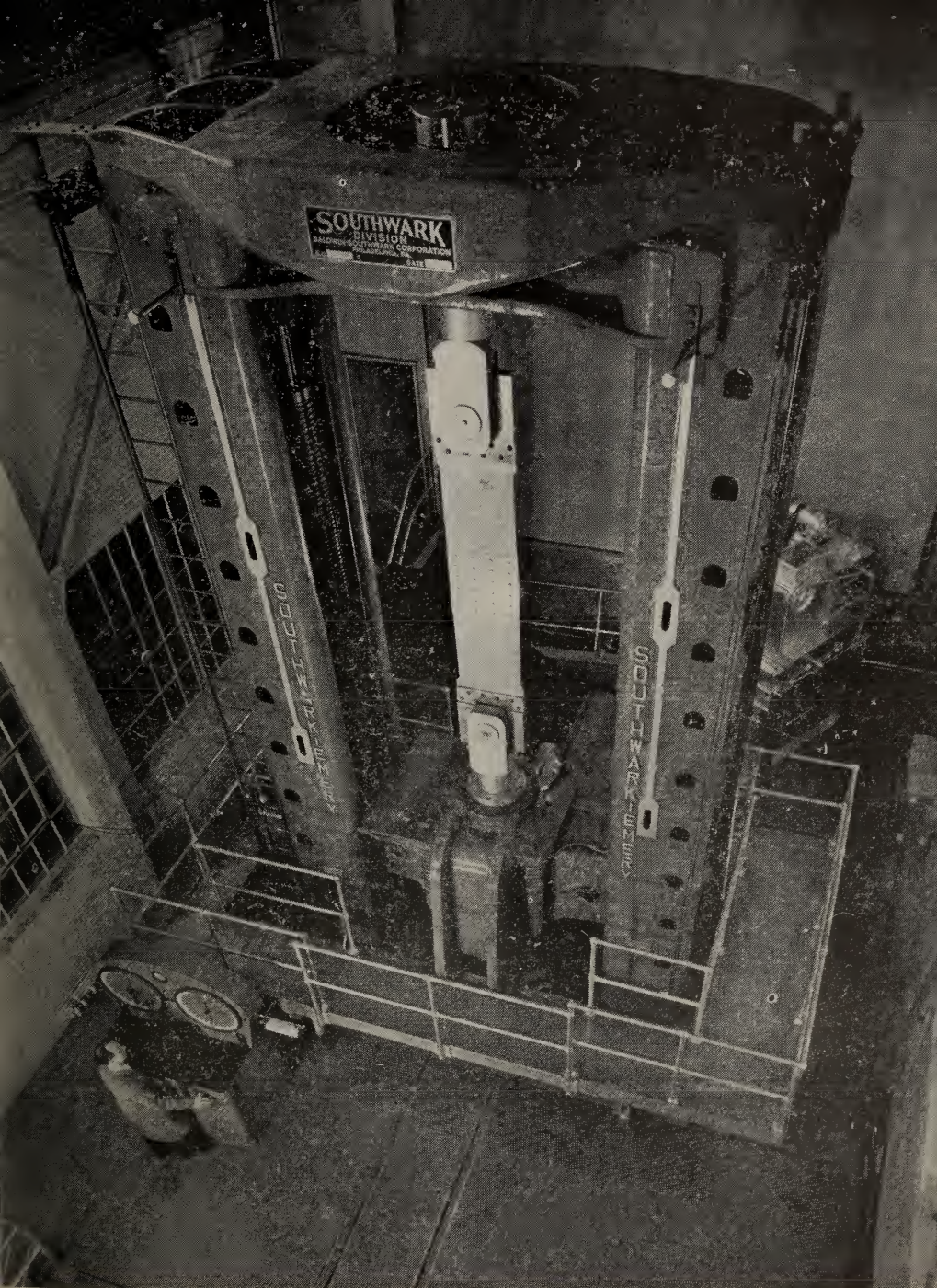


Photo: Aluminum Company of America

Here's a precision testing machine with a force of 3,000,000 lbs. The force can be controlled with an accuracy of one half of one percent. Unit stands 5 stories high. It's used for testing metals. That's how technology works; test everything and add the factors correctly. If we test the Price System and add up the factors we find that it stinks bad enough to collapse anytime now.



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Big shot

This is a picture of US, all of US. Study it and get the idea. We've been catapulted into the Power Age by Technology. Our superficial culture is shown by the top hat. What's underneath the hat is what counts. Have we got it? The only way to prove it is to turn over social controls to Technology. Events will not wait on our beliefs. The time is now. Otherwise it's good night, clucks.

Photo: Chicago Times Syndicate



Photo: Burroughs Adding Machine Company

Here's the latest in Duplex Electric Calculators. Maybe we think we can add up our social problems correctly with old 'hand-me-downs' from the past like 'I believe; It's my opinion.' But, those days are gone forever. 'Annie doesn't live here anymore.' Social problems are now technical problems. They must be tested and added correctly. What we need is the latest in social intelligence.



Photo: Aluminium Company of America

STOP. consider, test, add up correctly, or go the way of the doao and the passenger pigeon. 'That which ceases to function ceases to exist.' It's a physical law. If we do not function socially for the General Welfare and Common Good we must go back in living standards and population to an earlier and lower level. That's social fascism. It's what the triple oligarchy wants. DO YOU?

Flashes of American History

VII—Kelly Makes a Discovery in Steel

By Ben H. Williams, 8141-15

When Andrew Jackson came out of the Tennessee wilderness in 1829, his long and tedious journey to the White House had to be made by horseback and stage. And yet this doughty protagonist of rural self-sufficiency of an ox-cart era was about to do battle Quixotic-like with physical and social forces of a new and dynamic character. The United States was on the threshold of the Machine Age—of a technological advance in industry and agriculture that very soon should render Jeffersonian and Jacksonian 'democracy' and all other ox-cart concepts not only obsolete but dangerously 'reactionary.'

Some Retarding Physical Handicaps

In the 30 years following Jackson's inauguration, America emerged a considerable distance out of her rural and sectional isolationism into a daily-changing world of canals, railroads, steamships, textile factories with improving devices, clothing factories with sewing machines, farms with grain reapers and other implements and along with these, an oligarchy of bankers, railway promoters, and industrial enterprisers of all categories to keep pace with expanding industry and commerce.

Apart from this, however, the history of technology shows in many instances how advance in a given direction is often halted or retarded by want of some contributory device or invention. As previously noted, for example, notwithstanding the revolutionary applications of machinery in the British textile industry up to the last decade of the eighteenth century, 'the arch of that industry still lacked its keystone'; an adequate supply of cotton. Whitney's cotton gin in 1793 was the answer to that problem. In another instance, the clothing industry was doomed to remain a small household affair until the sewing machine about the middle of the last century

initiated a similar expansion through the large factory system.

In the aforementioned period, from 1830 to 1860, the Machine Age was seriously retarded for want of an efficient and speedy method for quantitative production of steel. Known methods of smelting iron ore and converting the cast iron into malleable iron or steel involved a lot of reprocessing of small quantities at excessive energy and money costs. The urgent necessity of over-coming this handicap was recognized in Great Britain and the United States. Railroads needed better rails and more of them; machine and hand tools were costly and inefficient; the type of steel required for Deere and Oliver plows was extremely expensive and difficult to obtain.

A Simultaneous Discovery

Two men of an inventive turn of mind—a Britisher engaged with the improvement of war munitions, an American with the making of iron kettles—independently hit upon the discovery of converting pig iron directly into steel. The credit for the discovery has gone to the Englishman—Sir Henry Bessemer—and bears the familiar name of the Bessemer Process. But William Kelly, a Kentucky 'hill-

billy,' really made the discovery several years ahead of Bessemer.

In his plant near Eddyville, Kentucky, about 1846, says L. W. Spring, Kelly invented a process for making large sugar-boiling kettles for the Southern planters, and in seeking to make better and cheaper wrought iron for his kettles, he discovered the same process as Bessemer—that a steady blast of air alone would refine iron and convert it into steel. Ironmakers laughed at the idea, Kelly's father-in-law threatened to withdraw money from his ironworks, and his customers, hearing that he had a "new-fangled way of refining iron" insisted that they wanted iron in the regular way or not at all. Then the ore supplies near his ironworks gave out. Despite these difficulties, he worked on his process in secret, built a converter in 1851 at the Cambria Iron Works, in Johnstown, Pennsylvania, and hearing of Bessemer's process, patented his converter in 1857. Some authorities give Kelly credit for being the first inventor in this field.

Nor did Bessemer meet with smooth sailing in the introduction of his new process. Iron makers who first tried his method failed to get expected results. The steel they produced was brittle. Lacking scientific knowledge, these manufacturers were helpless in determining the cause, and rejected Bessemer's invention. So Bessemer set out to prove that he was right. He found that the iron he used in his experiments had a low phosphorous content. That produced good steel. The iron used by his customers had a high content of phosphorous, which accounted for the brittleness of the steel product. Having thus discovered the cause and the remedy, Bessemer found himself still unable to interest the manufacturers in his process, until after he had built himself a plant and demonstrated his method beyond a

doubt. Eventually the process came into general use throughout the industrial world, only to be superseded in large part by the open hearth method of a later date.

It is unnecessary here to give a description of the Bessemer-Kelly process. Our readers are urged to get a copy of L. W. Spring's 'Story of Iron and Steel' and read the dramatic account of how Bessemer made the discovery in 1856. Spring closes his story with this observation:

Bessemer was the father of the steel age. Without him there might be no transcontinental railroads, no skyscrapers, no great bridges, ocean liners, or Panama Canal. In the development of the industrial world as we know it today, he stands next to Watt, the inventor of the steam-engine.

Meanwhile, at this point in American history, the several streams of technological development begin to converge into one mighty river. The individual achievement becomes less noticeable in the larger current; the individual inventor or technologist is about to become a mere attache of the entrepreneur, who in turn is about to lose his character of 'rugged individualist' and to become a mere cog in the giant corporation and holding company of the twentieth century. Technology marches on the double quick!

Before we pass on to the Power Age, let us tarry awhile longer in the early Machine Age and view some more outpourings of the smaller streams of technological development in America. My next 'Flash' will treat of the subject, 'An American Introduces the Sewing Machine.'

Reference:

Waldemar Kaempffert, 'A Popular History of American Invention,' Volume II, Chapter I: 'The Story of Iron and Steel,' by L. W. Spring.

Primer of Technocracy

Culmination of The Industrial Revolution

By Henry Elsner, Jr., R.D. 8342

'When In The Course'

The Industrial Revolution formed the cornerstone of modern society. If the events precipitating it had not occurred, we would today be without most of the conveniences and necessities which we take for granted. Life would have remained at the static level of thousands of years ago. But while this Industrial Revolution has brought material benefits hitherto unknown of, it has also introduced a disquieting note into our social life, which, as the years have gone by, has risen in crescendo. The last great depression and World War II were but two of the more obvious products of the factors which are 'upsetting the applecart' of our living and thinking.

In determining the causes and analyzing the effects of these conditions, we will deal primarily with the North American Continent. This is because we live here and are naturally more concerned with problems close at home, and also because certain physical factors have put America in the forefront of social change. The foremost of these factors is the fact that the North American Continent has approximately 54 percent of the world's total known energy and mineral resources. We have 19 percent of the world's land area, with only 9 percent of the total population. Europe and Asia, due to the natural scarcity of many of the resources upon which modern technology depends, plus a larger population than may readily be supported, obviously could not, in the same period of time, reach the same state of technical progress as that of North America. The Indus-

trial Revolution is here at the point of culmination. Kilowatt hours have replaced man-hours of labor as nowhere else in the world. Today only about 2 percent of our labor is manual, the other 98 percent being mechanical. Conversion of energy is at such a level that every man, woman and child has the equivalent of several dozen slaves working for him day and night.

These are some of the physical changes which the transition from hand-tool to power production has wrought. What are the changes in our society? A study of our economic and administrative systems will reveal that they are essentially the same as those in effect before the Industrial Revolution. Oh, yes, the outward appearances have changed, the ideologies have changed, and the groups in power have changed; but if one makes an honest analysis of *operating characteristics*, he will find that they have changed little. Our whole social system has been built on an economy of scarcity. All of the 'different' political and economic systems from 'capitalism' to 'communism' had their origin in the days before the Industrial Revolution, or when it was in its early stages. Power production and modern technology have, for the first time in human history, made possible an economy of abundance here in North America. It is obvious that there must come an inevitable conflict between these diametrically opposed conditions.

Physical History of America

It has been said that statistics are dry, which is correct, but these same

statistics can be illustrated in the form of graphs, which sharply reveal important trends. If we take the statistics of the growth and operation of our industries since the country's founding, plot graphs from them, and then combine these graphs, we have a concise picture of American Industrial operations. A study of such a graph shows some very important trends. First, it is seen that the rate of extraneous energy conversion is constantly increasing. We see that total production has also increased proportionally. Another curve, representing man-hours per unit, that is, the length of time and number of men required to make a unit of anything, has declined. The line representing total employment rises until a peak is reached about the year 1921, and then steadily declines until the beginning of the Second World War. If we take the curves of extraneous energy conversion and production, and instead of the average curve used to compute totals, use one conforming strictly to periodic conditions, a very interesting state of affairs may be noted. Production zooms upward for a time, and then dips sharply, only to once more climb higher than before; which, in turn, is followed by another low dip. Each of these dips from the average curve is about 30 percent greater than the one previous, with each dip occurring closer to the next one than the preceding one was to itself.

What does this array of facts and figures mean in relation to our society? From the purely physical standpoint, this means that we have a growing capacity for the production of an abundance, and that less time and human labor is needed in this production—which should create more leisure time. Couple this with the production of plenty for all, and it would seem that the outlook is rosy

indeed. But here is where our economic system, which, as previously mentioned, was originated in conditions of natural scarcity, enters the picture. We have noted the dips in the curve of total operation. What caused them?

Expand or Die

As industrial plant capacity rapidly expanded, a point was reached when consumption no longer equaled production. Then the shops closed down. The reasons for this are many, but one of the chief causes is that the markets became 'flooded'—too much was produced for the men producing it to buy it back. Added to this is the factor of decreasing man-hours per unit, brought about by improved methods, and increasing mechanization, which, under our economic setup, means unemployment.

In the past, these shutdowns were only temporary, as there were then several ways of alleviating their causes. One of the chief of these was further expansion. The industries opened new branches 'out west' employing more men, or new industries were started, putting more money into circulation. Or exports to foreign countries were increased. But, as the magnitude of operations increased, these shutdowns became progressively more severe, and closer together. Our frontiers were eventually closed, and the limit to new industries was becoming apparent. Also, improvements in existing industries meant only the shutdown of the more obsolete factories.

Thus did the debacle known as 'the great depression' occur. After World War I, business was stimulated by the scarcity rising from war-time conditions, and after a minor shutdown in 1921, such furious expansion was started that it was evident years before the crash that the limits must soon be reached. The

stock market crash was due largely to much greater expansion on paper (stocks and bonds) than could be accomplished in reality. When the limit was reached, everything started to collapse at once. When a depression is started, it becomes a downward spiral, increasing constantly in momentum. Millions were unemployed and needy in the midst of abundance.

With the New Deal, the last desperate measure to preserve and revive the distribution system were tried. 'Pump priming' through the NRA, government subsidies, public works projects, and the dole, was an attempt to redistribute the purchasing power so that goods might be bought and production once again commenced. At best, the plan was only a palliative, and not a cure. The 'recession' of 1937-38 bore this out. Production had risen to the 1929 level, yet there were still millions unemployed.

It took another war to finally lift America out of the depression. In wartime, everyone is employed producing war materiel which is destroyed, thus maintaining a perpetual scarcity. During this time, adequate civilian goods are not produced, which also creates a scarcity. It is this scarcity which enables our present full employment to be maintained.

Just Around The Corner

The war is over now, and we are striving to return to 'normal.' We observe about us shortages, inflation, strikes and confusion in general. These conditions are not signs of a healthy economy. Many observers foresee another depression in the near future. The recent, and still continuing, events in the stock market seem to bear this out. When one studies the signposts of today, he is able to see that it is only a matter of time before another 'boom and bust'—or will we have a bust before a boom!

The problem facing us today is primarily one of distribution. The problem of producing an abundance for everyone has already been conquered. The paradox of 'poverty in the midst of plenty' is not insoluble. Surely we who have solved the problem with which the rest of the world is still struggling are able to accomplish this, solution of the problem of distribution.

The next depression will be the last depression! This economic and social system is doomed to go, not because it is so desired by a group or groups of people, but because it is outmoded. The change-over from an economy of scarcity to one of abundance will require changing a lot of ideologies ingrained for the past few centuries. This is not as hard as it seems, for did we not discard the horse and buggy in favor of the automobile? Whether we like it or not, we must face the fact that we must institute a new system of distribution and administration which is in accord with the technical age in which we live. The only alternative is to plunge North America into Dark Ages blacker than those Eurpoe has ever known.

Straw in the Wind

Dun and Bradstreet reports that the number of business failures which was at a record low during the war has been rising steadily. 'Manufacturing failures outnumbered wholesaling and retailing failures in 1946 the first time in American business history and the trend has continued into 1947. In January and February 159 insolvencies were reported.' *Chicago Tribune*, May 4, 1947.)

'The steel industry uses two billion gallons of fuel oil annually to heat its furnaces.' (*Steel Facts*, February, 1947.)

Technology Marches On

Productivity Changes Since 1939

Part 2

By Research Division, 8741-1

In the first part of this article, published in the May-June issue, the increase in productivity in manufacturing between 1939-1945 was outlined. This part deals with the nonmanufacturing industries such as mining, railroad transportation, electric utilities and agriculture. All of the data cited are taken from the MONTHLY LABOR REVIEW for December 1946, unless otherwise indicated.

Productivity in nonmanufacturing

Wartime restriction on new equipment installations and shortages of materials and manpower had their effect to a greater or lesser extent in all industries. This condition aggravated operating problems and tended to slow down the steady increase in productivity.

This was especially true in those industries producing goods and services not directly essential to the war effort. For instance, in the clay construction products industry production dropped 3 percent between 1941 and 1945 and output per man-hour declined 16 percent. Productivity also declined in the cement industry. In general, in those industries where total production declined because of wartime restrictions, the output per man-hour also dropped.

On the other hand, nonmanufacturing activities in direct support of the war effort report a sharp rise in productivity. The Bureau of Labor Statistics reports that: 'Special efforts were made to supply these industries with needed equipment and to keep them adequately staffed.' Among them are mining, railroad transportation, electric utilities and agriculture.

Mining Industry

In the major mining industries output per man-hour doubled between

1919 and 1939. This resulted from the growth of mechanization and improved equipment. In soft coal mining 60 percent of the underground production was cut by machines in 1919 and 91 percent in 1945. The use of mechanical loading rose from one percent of production in 1925 to 57 percent in 1945 according to a report of the National Coal Association in *Mechanization*, January 1947.

The BLS states: 'Strip mining which is far more efficient than underground mining with respect to man-hour requirements per ton, contributed little more than one percent of the total coal tonnage in 1919, but almost 10 percent in 1939. A release of the Bureau of mines, dated March 15, 1947, reports that in 1945 coal production by strip mines was 19 percent of the national total. The overall increase in output per man-hour in soft coal mining between 1919 and 1945 amounted to 20 percent.'

Metal Mining

Productivity also rose in metal mining. More extensive mining was done by the open-cut method. Belt conveyors and larger capacity trucks were installed. In underground metal mines new drilling rigs and ore handling devices were installed. Special efforts were made to maintain an ade-

quate labor force. The production of iron ore from open pit mines increased from 62 percent of the national total in 1939 to 74 percent in 1944. The overall increase in output per man-hour in iron ore mining between 1939 and 1945 amounted to 17 percent.

Non-Ferrous Mining

In both copper mining and lead and zinc mining, the BLS reports: '... sharp gains were made in ore output per man-hour.' In copper the increase in productivity was 49 percent, in lead and zinc 45 percent, between 1939 and 1945. However, the recoverable metal production per man-hour was another story. In copper mining it rose 15 percent. In lead and zinc mining it fell 13 percent from 1939 to 1943, but by 1945 had risen to within .8 percent of the 1939 level.

The deposits of copper, lead and zinc are becoming leaner in the U.S. In order to stimulate production from deposits that could ordinarily not be worked profitably, the Government made premium payments for all production above a fixed quota during the war. The BLS states: 'New processes of recovery developed for non-ferrous metals made it economical to mine large masses of easily accessible low-grade ore.'

Petroleum and Gas

Output per man-hour increased 28 percent in the extraction of crude petroleum and natural gas between 1939 and 1945. The BLS states: 'The gain was attributable in part to a reduction in the proportion of labor devoted to the development of new wells.' Well drilling dropped sharply between 1941 and 1943. 'With accelerated well drilling in 1944 and 1945, the advance

in man-hour output was halted.' Nevertheless the overall increase in productivity for the major mining industries together was 18 percent between 1939 and 1945. The BLS concludes that: '... and continued increases in man-hour output may be anticipated in the mining industries.' More production, less man-hours.

Railroad Transportation

Productivity in railroad transportation is 'measured in terms of passenger mileage and freight ton-mileage carried per man-hour of labor.' Between 1919 and 1939, output per man-hour rose 75 percent. More powerful locomotives, higher train speeds, larger capacity freight cars, better roadbeds and greater durability of rails and ties all contributed to the increase in productivity.

During the war there was a huge increase in traffic. Output per man-hour rose 48 percent between 1939 and 1944. The peak of traffic was reached in 1944. Due to the decline of traffic after that productivity dropped off but in the first quarter of 1946 was still 30 percent above the 1939 level. The BLS states:

The tremendous wartime gain in productivity, unlike the steady advance in the period before the war, did not arise from any fundamental improvement in operating methods, but resulted in large part from more complete loading of cars. It is apparent that the volume of traffic carried per man-hour depends, to a great extent, on the average load per car, since an increase in the average load does not require a proportional increase in the amount of labor.

During the peak year of 1944, the freight ton-mileage was more than twice as great, the passenger mileage four times as great, and the volume of freight and passenger traffic 144

percent higher than in 1939. This was done with almost no additions to rolling stock. 'Both passenger and freight cars were more fully loaded and more continuously used.'

Since the war the volume of traffic and the utilization of car capacity have declined. The BLS states that the latter factor accounts for the recent severe shortage of freight cars. A survey made by the Securities and Exchange Commission indicates that the railroads are planning capital expenditures for new equipment on a larger scale than since 1939. Track maintenance and yard operations will be further mechanized. Modern locomotives, rolling stock and communications equipment will be installed.

In view of a lower volume of traffic, the new equipment will permit retirement of older installations. The BLS concludes: 'After the initial readjustment to lower volume of traffic, however, the long-term upward movement of productivity will doubtless be resumed.' This spells more production with less man-hours of labor. That's how technology works.

Electric Utilities

The electric energy distributed by utilities per man-hour more than doubled between 1917 and 1939. Between 1939 and 1945 output per man-hour rose 91 percent above the 1939 level. This great advance in productivity has resulted from the use of larger-capacity equipment at higher pressures, and temperature, increased fuel efficiency, and improved methods of handling fuel, better transmission and distribution systems permitting a decrease in power losses and a reduction in the amount of labor devoted to maintenance and repair.

Another important factor has been the increase in the amount of energy consumed per customer. This permits a reduction in labor devoted to instal-

lation, maintenance and clerical work. The BLS reports: 'The rapid increase in output per man-hour during the thirties parallels a rise in the amount consumed per customer, from 2,900 kilowatts in 1934 to 3,600 in 1939.' Total demand for energy and the average consumption per customer both went up sharply during the war.

After the war both the above factors declined resulting in a small decline in output per man-hour. The BLS concludes:

As in the case of the railroads, the decline in productivity will probably be of brief duration. In the longer run, there will doubtless be continued advance in the man-hour output. The indications are that the electric utilities are planning moderate increases in capital expenditures over the prewar averages and continued improvement of operating efficiency may be anticipated.

Here it is again, more production with less man-hours of labor.

Agriculture

Correct information on output per man-hour in agriculture is hard to get, since data are not available on the average hours per worker. An index of output per worker (including proprietors), however, is available. Between 1919 and 1939 output per worker rose 25 percent. Output per worker rose about another 25 percent between 1939 and 1945.

The chief causes were mechanization, improvement of farm practices, improved plant varieties, improved breeding and feeding practices and pest control.

The BLS reports: 'It is worthy of note that the wartime advance in productivity was achieved despite the restrictions on the production of new farm equipment.' The Department of Agriculture in a release dated April 27, 1947, quotes Sherman E. John-

son, Assistant Chief of the B.A.E., as follows:

'In 1945 one hour of work resulted on the average in about one-third more milk, one-half more corn, and $2\frac{1}{2}$ times as much wheat as in 1920. Farmers use less than two-thirds as much labor per unit of product today as they did in 1920.

Now that the war is over, the BLS reports:

Equipment purchases will now be made at an increased rate, and many new machines will probably be introduced. . . . Continued progress may be expected in the development of superior plant varieties, improved methods of pest control, greater control of erosion, and better breeding practices. Thus, the upward trend in productivity will doubtless continue.

Technology works the same in all fields. More production, less man-hours.

Significance of Changes

Output per man-hour together with hourly earnings determines unit labor cost, i. e., the wage payments made per unit of product. In 32 manufacturing industries, unit labor cost increased between 1940 and 1944. However, the trend was reversed in 1945 when unit labor cost declined in 11 industries despite higher wage levels in all of them. In the mining industries the wartime increase in unit labor cost was lower than in manufacturing. In railroad transportation unit labor cost declined 5 percent below the 1939 level.

This means that railroad workers got 5 percent less in wage payments for each unit produced. The BLS reports: 'The decline in unit labor cost was even more marked for electric power. In 1945, wage payments made per kilowatt-hour of electric energy distributed were 28 percent lower than

in 1939.' In those industries where productivity rose the most, the average hourly earnings declined the furthest. Thus, rising productivity plus falling unit labor costs spells less purchasing power paid out for a greater production.

If hourly wages are increased to compensate for increased output and falling unit costs, then total purchasing power remains about the same. However, this has not been the case. Between 1919 and 1939 average hourly earnings in manufacturing increased 28 percent, but output per man-hour rose 125 percent. During this period the BLS states that unit labor costs dropped 44 percent and wholesale prices of manufactured goods 38 percent.

Thus, we see that besides the great number technologically displaced from the economic circle, those who manage to stay inside fall ever further behind. In other words, the rich get richer, and the poor get more of the same. The BLS states:

The gains in living standards made possible by productivity advance will be realized only if employment is maintained. . . . this means that production and demand must increase year after year at a rate sufficiently great to accommodate both the increase in the size of labor force and the rise in productivity. . . . The challenge may be whether the economy can adjust itself to increasing productivity, without suffering unemployment, once war-accumulated demands are exhausted.

It's a good trick, if they can do it. But, the American Price System has never done it as yet. The physical factors which caused our past expansion have ceased to operate. A Price System must expand, or die, after technology enters the picture. As far as we are concerned, the Price System can't die too quickly.

Technocracy and Your Trade

Foundry Workers—Part 2

By Organization Division, 8741-1

The first part of this article was published in the September-October 1946 **GREAT LAKES TECHNOCRAT**. It dealt principally with molders and the advance of technology in the foundry industry in general. However, molders comprise only about 30 percent of the production workers in foundries. There are many other occupations. Among the most important, making up the bulk of employment, are coremakers, patternmakers, chippers and grinders, casting inspectors, foundry technicians, sand mixers and melters. Let us see what the prospects are for these occupations. The data herein are taken from Bulletin No. 880 of the U. S. Bureau of Labor Statistics unless otherwise stated.

The Coremaker

'Coremakers prepare the bodies of sand, or "cores", which are placed in molds to form hollows or holes required in metal castings.' As molten metal is poured into the mold, it flows around the core. After the casting has cooled off, the mold, including the core, is removed, thus leaving the desired cavities, holes, etc. The cores are shaped from a special type of sand mixed with a binder.

Some cores are small and simple in shape. Others are larger or more complex. This gives rise to a distinction in coremaking between the highly skilled journeyman, the semi-skilled worker, and the machine coremaker. The qualified journeyman can make any type of core. The semi-skilled worker usually works where a large number of simple and identical cores are made. This is also the field of the machine coremaker.

The journeyman coremaker constitutes a relatively small and declining group. Machine methods are displacing his skill to an increasing extent. Machines are also taking over an ever larger part of the operations from the semi-skilled specialist. The BLS observes: 'Coremaking by means of the turnover (or "roll-over") draw machines eliminates hand work in con-

nection with ramming of the sand and withdrawing the core, and to this extent reduces skill requirements.' The machine requires little more than the properly timed use of hand and foot controls.

'We Who Are About To Die . . .'

The extrusion type coremaking machine or the core blower require only routine machine-tending duties. For varying types of intricate cores, machines are not yet suitable. This is the special field of the journeyman. However, the BLS states that: 'In the longer run . . . a significant reduction in journeymen employment may result from continued technological change.' Prospects point to the continued mechanization of coremaking. Journeymen who are affected by this process will be able to adapt themselves readily to machine operations because of their all-around skill.

The BLS states: 'The growing use of coremaking machines will tend to expand the total of machine-operating jobs. However, since the newer machines also increase output per man-hour, the actual number of jobs may not be materially increased.' This statement will go down in the history of philosophy. If jobs are not 'ma-

terially increased,' what happens to them? Are they materially decreased, or do they remain materially static? Even just an itsy bitsy change one way or the other would be a material increase or decrease.

Maybe the BLS is trying to say, in a polite way, that an increase in output per man-hour spells a decrease in total man-hours of labor. Be that as it may, the BLS never fails to offer a plum to any group of workers about to be displaced by technology. To the journeyman coremaker, it offers the prospect that his displacement by technology will 'create some demand for journeymen in supervisory positions.' Since there were 30,000 journeymen coremakers employed in 1944, the castings industry now has a happy backlog of potential straw bosses to draw upon. *Veni, vidi, vici.*

The Patternmaker

'Patternmakers are the highly skilled craftsmen who construct patterns and core boxes (forms used to shape molds and cores) for castings.' About 14,000 journeymen patternmakers were employed in 1944. Around two-thirds of them construct wooden patterns and one-third work in metal. The BLS observes:

Wood patternmakers can qualify for nearly every kind of skilled wood working job—cabinet making, for example. Metal patternmakers are suited for many types of machine shop work, including the jobs of machinist, machine-tool operator, and lay-out man.

The patternmaker works from a blueprint. He studies the type of casting required and plans the pattern. The construction is done with power and hand tools. The wood man uses power saws, borers, lathes, planers, band saws and sanders. Metal men use engine lathes, drill press, milling

machine, power hacksaw, grinder and shaper. After fabricating the various parts, the patternmaker assembles the several segments. 'A high degree of accuracy is required, since any imperfection in the pattern will be reproduced in the castings made from it.'

Business Week for May 3, 1947, in an article on foundry mechanization, notes: 'Some foundry operations don't fit into mechanization-pattern making, for example.' This may be so, to a large extent. Nevertheless, the casting industry is subject to continuous technological change. Die casting, the permanent mold process and the still newer method of cold extrusion of steel are affecting and will affect the position of the patternmaker to a great extent. Cold extrusion of steel, the Neumeyer method, was developed in Germany. A report of the Technical Industrial Intelligence Division, quoted by *Federal Science Progress* for May, 1937 says of this method:

Cold extrusion of steel opens up an entirely new field. The fact that the Germans were able to make cold steel flow by means of pressure exerted in the same manner that we have extruded tin, lead, copper, brass, aluminum, etc., opens up vast possibilities, for making many different end products at greatly reduced cost. The dimensions of the cold extruded parts are so accurate that in many cases they will replace parts now made of malleable iron, grey-iron, drop forgings, or parts completely machined from bar stock, without any machining at all. This in itself will make great savings in the cost of production of the finished part

So the patternmaker is not immune to the impact of technology. The BLS states that the demand for patternmakers is not likely to exceed the supply in postwar years, and that

opportunities to enter the vocation will be limited by replacement needs. On the basis of deaths and retirement, openings will be limited to about 2,000 in the next five years. The BLS thinks that after the accumulated demand for civilian durable goods has been met, the number of patternmakers' jobs will decline. However, not to show partiality, the BLS also offers unemployed or displaced patternmakers a plum to look forward to.

In case the worst comes to the worst, they can always be advanced to supervisory positions or get jobs in related fields, such as skilled wood-working or machine shop work. What happens to the present supervisors or what the chances will be to get into a related field, if the worst comes to the worst (Depression), deponent sayeth not. All in all, the outlook isn't too brilliant for patternmakers. Technology has a way of displacing skill as well as man-hours.

Chippers and Grinders

In the cleaning and finishing departments of foundries, chippers and grinders are a large group of workers. In 1944 there were 50,000 employed accounting for about 20 percent of all foundry workers. 'Chipping consists of removing the excess metal from castings by means of pneumatic hammers or hand hammers and chisels. In grinding, a mechanically powered abrasive wheel is used to smooth and finish castings. ... There are variations in skill requirements, depending on the intricacy of the castings on which work is done, the degree of precision required. . . .'

In this department of foundry operations technology has made large advances. Tumbling machines, blasting apparatus and improved grinding apparatus have decreased skill requirements and boosted output per man-

hour. In addition, the increasing use of molding methods (permanent molds-die casting) which reduce the amount of finishing required are bearing down heavily on chippers and grinders.

The BLS states that although jobs in this line will be below the wartime peak, the outlook is favorable for the next few years. It adds, however, that: 'The longer-run outlook is slightly less favorable.' There should be a special medal cast (grey iron) for this type of painless prognostication. If technology is invading this field, as the facts indicate, the outlook for the workers concerned cannot be anything but dismal under the Price System. To make matters worse, the BLS has no plum to offer this group of workers when, as and if they become unemployed or displaced. Ah, me! Well, a fellow is bound to run out of plums once in a while.

Castings Inspectors

These workers check the measurements of finished castings and look for defects, such as cracks or blow-holes. The more skilled inspectors check complex castings from blue-prints. The less skilled do routine checking of identical castings. These jobs are usually filled by chippers and grinders who have worked up to them. About 15,000 inspectors were employed in 1944.

The BLS states that 'a fairly strong demand for skilled inspectors is anticipated in the next few years. However, the number of applicants for the less skilled inspection work will probably exceed the openings. It adds that: 'During the next few years, the total number of inspectors employed will fall short of the peak wartime level.' This is bound to be the case. The permanent mold method, die casting, and centrifugal casting require less in-

spection than the older methods. They are coming in, and all the casting inspector can do is go out and try to get a job inspecting something else. The BLS concludes: '... a high rate of transfer into other occupations should create some openings for new entrants.' Presumably, the 'new entrants' can also, later, participate in the 'high rate of transfer' to other occupations. It's always nice to have something to look forward to.

Foundry Technicians

These are the occupations concerned with quality control in the making of castings. They test molding and coremaking sands, perform chemical analysis of metal, operate machines which test the strength and hardness of castings, use X-ray and other apparatus to inspect the internal structure of castings. The BLS predicts that employment of foundry technicians should approach the wartime peak in the next few years. It adds:

Moreover, there should be a gradual expansion of employment opportunities, resulting from the long-run trend toward greater use of scientific methods in casting metal.

Foundry technician, although numerically small, is a growing occupation. This makes sense. As technology moves deeper into the castings industry, there will be more call for technical brains, and less for handicraft skill and plain muscle work.

Sand Mixers

Sand mixers clean the sand used in molding, moisten it as required, and mix it with the correct proportions of binding ingredients. The mixing is done with hand shovels or mechanical mixers. The work can be learned in a short time. In 1944 there were about 10,000 sand mixers employed. The

BLS states that: 'The number of jobs for hand and machine sand mixers during the next few years will be below the wartime level.'

This is understatement with a vengeance. As a matter of fact, sand mixing is doomed to become a 'has been' occupation before very long. Technology is moving in rapidly.

Business Week for May 3, 1947, carries a story on foundry mechanization. This states, in part:

A steady increase has been noted in the use of mechanical equipment for the preparation and conditioning of sand. ... At Pohlman (Pohlman Foundry, Buffalo, N. Y.), a centralized sand system is installed. In the central miller, the sand is cleaned and mixed with binders. It is delivered through a conveying system to a series of molder stations located throughout the plant.

The story then goes on to say that at one point the sand is fed into a device that by centrifugal force throws it into the mold frame around the pattern and packs it tightly. At another point sand travels overhead and is dropped through chutes into the molding machines. Excess sand and used sand drops through gratings in the floor and travels back to the central station for reconditioning and reuse.

This looks bad for the sand mixer. The BLS seems to think, however, that: '... if allowance is made for withdrawals from this occupation, there should be some openings for new workers.' That's a hot one. In other words, if a dozen sand mixers retire to live on their capital, or to join their ancestors, a dozen new jobs will be created. The BLS adds conscientiously, however: 'In the longer run period, increased use of mechanical mixing methods will reduce the need for hand mixers, but those

experienced in the use of sand-mixing machines should continue to find employment.' The answer to that is that as mechanical mixing methods become more automatic, there will be less man-hours of labor than ever. So sorry, please! No plum for the sand mixer.

Melters

'A foundry melter operates or directs the operation of a furnace unit used to melt metal for castings.' He must charge the furnace with ingots and scrap, control the temperature, and pour off the molten metal.' 'A melter usually specializes on a particular type of furnace—cupola, open-hearth, air, electric, crucible, or reverberatory.' Melters are a small group and their skill varies with the type of furnace used. However, skill, in this occupation is a declining factor for two reasons.

Some of the responsibilities of melters is being transferred to foundry technicians. Also, technology is moving in on this job. *Business Week* states in the story previously quoted from that:

Metal technique at the Pohlman plant is being improved. The cupola in which the raw materials are melted is automatically charged. This aids in strict control of melting procedures, with resultant benefits in the properties of the molten metal, eliminates guesswork and carelessness in the preparation and placement of the charges. The molten metal will be carried in individual ladles suspended from overhead conveyor-tracks.

The BLS states that the average age of experienced melters is quite high and that, therefore, many of them will have to be replaced in the next 5 to 10 years. It predicts that: 'The number of jobs for melters should hold fairly steady for some-

time, although the skill needed will gradually be reduced.' When the time comes to replace the old-time melter, it is a fairly safe bet that automatic equipment and the foundry technician will step into his shoes. That's the way technology operates.

Summary

There you are, Mr. Foundry Worker. Technology is invading every department of your industry. Even that aristocrat of hand skill, the pattern maker, is not safe. Both production and jobbing foundries are affected. *Business Week* states that foundry mechanization was an important feature at the annual convention of the American Foundrymen's Association in Detroit during the first week of May 1947. It states:

The trend toward mechanization is spreading downward into the smaller foundries, many of whom operate on a job basis with short runs and diverse types of castings.

There will not be any exceptions to the program of mechanization. Even materials handling will be mechanized. *Business Week* estimates that for every 100 tons of casting produced, over 16,000 tons of materials must be moved. This used to be a lush field for labor, but no more; or at least not much longer. Cranes, jibs, hoists, roller conveyors and overhead systems are being installed. So, when your skill is displaced by a machine, it will be harder than ever to get a job at ordinary labor work.

Under the Price System of trade and commerce, such as we have today, the advance of technology is an unmitigated curse to the great majority. It increases output per man-hour, but reduces total man-hours. It bloats corporate profits but shrinks total mass purchasing power. It decreases skill and increases competition for jobs. All

this is not the fault of technology. It is in the way technology is used by the Price System.

The benefits that technology could bring to all are deliberately sidetracked by the Price System for the purpose of enforcing an arbitrary set of social rules that benefit only a small minority. There is a limit to this. The American Price System has crashed into depressions four times in the last 50 years. Each one of these crashes was more severe than the one before. The next one is right around the corner. It will probably make the crash of the 30's look like a boom period!

The Way Out

The Price System can do little, or nothing, to avert it. Its own Operating Rules are laying it low. Technocracy Inc. has pointed this out many times. Technocracy is the only Organization on the North American Continent that really understands what is actually going on on this

Continent today. This is because it is the only social movement that has made a scientific study of the Price System.

Technocracy invites all foundry workers to join its Organization, and to participate in getting ready for the collapse of the Price System. It is necessary to get ready in advance, so as to stall off social fascism. We need a brand new and scientific social system. The blueprints are all ready. Technocracy is constructing the pattern.

The design of a New and Better America calls for more goods and services for all citizens, for abundance, security and equal opportunity from birth to death. This does not conflict with anything that any American belongs to under the Price System. Technocracy is the indispensable social necessity, without which nothing else is of much value.

The best way to prove this to yourself is to join Technocracy and investigate the whole proposition from the inside.

Technological Controls

'As a basic engineering material, castings affect everyone. Every time you drive your automobile, you are moving about 600 pounds of castings. A truck contains even more cast metal. Your home, if it is one of average size, has roughly 5,000 pounds of castings in it, mostly in plumbing and heating applications. Railroads consume vast quantities of cast metal. So do farm implements and almost every type of machinery . . .

'Today, spurred on by wartime discoveries as well as the perfecting of prewar processes, the foundry industry is making the most drastic changes in technique since sand molds were first introduced in making casting from fluid metal, about 9,000 years ago. Machanization is sweeping the industry, and about 60 percent of the

5,000 foundries in the United States are modernizing with new equipment.' (Herbert Fredman, staff writer, in *Commerce* magazine, March, 1947.)

'Radioactive materials group 1, liquid or solid, must be packed in suitable inside containers completely surrounded by a shield of lead or other suitable material of such thickness that at any time during transportation the gamma radiation at one meter (39.7) inches) from and at right angles to any point on the long axis will not exceed 10 milliroentgens per hour.' (Regulation 368 (G) of the Interstate Commerce Commission for shipment of radioactive materials.) *New York Times*, April 6, 1947.

Each in His Own Tongue

By Publications Division, 8741-1

VOICE OF THE PRICE SYSTEM

Maybe They'll Organize

If renters can't pay the rent fixed by the landlords, then let the renters sink or swim, live or die, survive or perish. That's the way it should be.

United States Senator Homer Capehart (Rep. Ind.) in discussing rent controls in Congress recently. (As quoted by the *U. S. A. Patriot Educator*, March 10, 1947.)

'Open the Door, Richard'

The closed-shop law is a violation of the eighth commandment, "Thou shalt not steal." To steal is to take money from a man against his will. When the closed shop takes away his money, earned by the sweat of his brow, against that man's will, and uses it for purposes that that man does not approve, we have a form of stealing. The individual's stewardship or responsibility for his property before God is destroyed by the "collectivist" action of the closed shop.

From a manifesto of the American Council of Christian Churches. (As quoted by Thomas L. Stokes in his column in the *Cleveland Press*, April 28, 1947.)

Make It Unanimous

I'll take a buck, and who in hell doesn't know it? But I'd like to know the guy up here who doesn't take a buck.

Confession of an unnamed Boston city councilman in connection with charges by veterans' organizations that bribes were demanded for city licenses. (As quoted by the *New York Times*, March 30, 1947.)

Strip Tease Economics

People don't demand or buy new products simply because the goods are manufactured. They must first know about them and want them. You get demand by arousing desire.

Elon G. Barton, president of the Advertising Federation of America, at a weekly luncheon of the Kiwanis Club in Chicago. (As quoted by the *Chicago Sun*, October 21, 1946.)

High Cost of Dying

They want to gobble up as much money as they can get from widows and orphans. Embalming a body costs only \$1.50 and they get any thing they want for it. A \$35 casket sells for \$150 or \$200. Yes, it's a mighty good racket.

W. W. Chambers, Washington, D.C., undertaker, in testimony before a Congressional committee attempting to set up a licensing system for undertakers. (As quoted by *Labor*, April 26, 1947.)

It's Suicide Either Way

An armament boom is the only ultimate major alternative now visible to a decline in business. Such an armament program in the long run appears inevitable if we don't want to commit national suicide, but it isn't in sight at present.

Economic statesmanship from Wall Street, that appeared in *Barron's Weekly*. (As quoted by *Labor*, Nov. 16, 1946.)

No Competition Wanted

If shippers were required to deal with each individual carrier, and such

carriers make rates without regard to the rates made by other carriers, discrimination between individuals and between communities would exist to a degree never before experienced in the history of the country. Such a situation would amount to a return to the law of the jungle with destructive competition among carriers in lieu of the long standing policy of regulated competition which prevails today.

A. H. Schwieter, traffic director of the Chicago Association of Commerce, in a talk before the Central Western Shippers Advisory Board recently. (As quoted by *Iron Age*, February 6, 1947.)

Playing Both Sides of the Street

I wish to state simply and directly that I do not agree with the two resolutions which the press reports you have passed on the question of diplomatic representation at the Vatican and the recent Supreme Court decision on school busses.

I do adhere to the basic American principle of the separation of church and state.

Harold E. Stassen, self-proclaimed candidate for President in 1948 in an address before the Southern Baptist convention at St. Louis recently. (As

quoted by the *Chicago Sun*, May 10, 1947.)

Straight From The Horse's Mouth

Should the State be a lay-State?

By no means, the State has to represent the Catholic Church, which is the only true church. The State has to be subservient to the Church, as the body must be subservient to the soul or all temporal matters to the eternal bliss.

Is the State allowed to grant freedom to the press?

No, for freedom of the press leaves room for a possible absence of censorship thus allowing all sorts of opinions to be printed, no matter how absurd or detrimental to the good cause they might be.

Should the Government suppress this freedom by means of preventive censorship?

Yes, of course.

Are there any other dangerous freedoms?

Yes, freedom of the press, freedom of propaganda and freedom of assembly.

Extracts from a Catechism taught in Spanish schools, (As quoted by Heinz Pol in an article in *The Protestant*, June-July, 1946.)

VOICE OF TECHNOLOGY

Trouble Is, No Technology

The cold facts are that the housing industry in this country has at all times failed to provide sufficient housing accommodations for the needs of the people. The sad fact is that housing costs too much.

As presently organized, the house building industry is tied up by the lack of a regular flow of material

and absence of centralized managerial direction, and out-moded traditionalism in handicraft methods of production.

Senator Charles W. Tobey (Rep. N.H.) in a talk before the National Public Housing Conference at the Palmer House, March 12, 1947. (As reported by the *Chicago Sun*, March 13, 1947.)

He Knew His Followers

We rarely hear of the combinations of masters, though frequently of those of workmen. But whoever imagines that masters rarely combine is ignorant of the subject.

Masters are always and everywhere in constant combination not to raise the wages of labor. We seldom hear of this combination, because it is the usual state of things.

Masters, too, enter into combinations to sink the wages of labor. These are always conducted with the utmost silence and secrecy. But workmen's combinations are always abundantly heard of.

Adam Smith, in his book *The Wealth of Nations*. (As quoted by *Labor*, March 8, 1947.)

'Till It Is Four Years Old—'

We know far more than any race ever knew of the inner sources in man's nature from which happiness springs; but as long as either the theological or the mystical views of life and nature are allowed to touch the growing mind of the child, all the vast resources of science, . . . for bringing peace and adventurous joy to men in their inner lives, are thrown away. It is only when no hand but that of the brave and free scholar in the scientific study of man and his history, his morality, his conduct, his relations with his fellow men is permitted to touch the child, that we can hope to usher in a time when men will neither laugh at new ideas nor crucify the only emancipators who can ever break their intellectual shackles.

Dr. Albert Edward Wiggam, in his book *The Marks of an Educated Man*.

It's the Price System

We have little or no idea how the stores of energy in the heavy nuclei originated but there is every reason to believe they have been

locked up there since that dim beginning of things, two or three billions of years ago.

The liberation of the energy appears to be irreversible—how hopelessly, only the trained physicist can appreciate.

These nuclei form a precious and irreplaceable part of nature's capital assets. No one yet knows what unique uses for human welfare these stores of high-potential energy may have when they are thoroughly understood.

Meanwhile, in our ignorance, we talk of ripping them out of the rocks and using them up to meet the commonest industrial demands, which any other source of power could do as well

The almost universal absence of any sense of responsibility toward any future which extends beyond the limit of lives already in being is a grave ethical defect in our thinking.

Henry Norris Russel, director of the Princeton University Observatory, in a paper before the Conference on Science, Philosophy and Religion in its relation to the Democratic Way of Life, held last Fall at Inter national House, Chicago. (As quoted by the *Chicago Times*, September 10, 1946.)

Venus, Here We Come

So far it is only this planet, as I say, that our government would make safe for capitalism.

But listen. Don't tell anybody but recently the astronomers have found that there is methane out beyond the moon in the atmosphere of Jupiter. Now Methane is the basic hydrocarbon fundamental in the building up of petroleum.

If the oil companies should hear of this discovery, don't tell, I predict that with many pious words, poured out over the radio to the interruption of one or more soap operas, I predict that with pious

words, and hiding behind your idealism, our government would begin to mess up the operation of the solar system.

The laws of the Almighty and of Isaac Newton would be attributed to the vicious party line that connects us with you know where. With civilian and military supervision, of course, we would start to lay a Big-inch to Jupiter, and Schwellenbach would chase the Commies off the moon.

Professor Harlowe Shapley, director of the Harvard University Observatory, in a talk before the Progressive Citizens of America at the Continental Hotel, Chicago, April 12, 1947. (As quoted by the *Chicago Star*, April 19, 1947.)

We Do It For Their Good

The true issue in China is not Communism; it is not Russia. The simple truth is that the Chinese people are waging a struggle to free themselves from the shackles of a feudal Fascist system which for centuries has kept them in a state of semi-starvation and feudal bondage.

The Chinese people are fighting for a democratic republic modeled after our own. It is difficult for them to understand why a country which waged a similar revolution in 1776 is now trying to crush the Chinese in their own fight for independence.

Dr. Herbert Abrams, recently returned from a post with the U. S. Public Health Service in China, in a talk before the Methodist Federation for Social Service at Garrett Biblical Institute, Evanston, Ill. (As quoted by the *Chicago Sun*, January 1, 1947.)

'The Godless Russians'

The local authorities are assisting us in restoring and repairing churches

destroyed by the German invaders, and supplying building materials. Our clergy are provided with all necessities.

There are at present two archbishoprics in Lithuania, those of Vilnius and Kaunas. The Catholic Church organization has remained unchanged. All 711 churches are functioning with their staffs of 1,332 clergy. The Kaunas Ecclesiastical Seminary, headed by the prominent theologian Ventskus, is graduating scores of young Catholic priests annually. Thousands of believers in Vilnius, Kaunas and other towns and villages gather as usual at Matins and Vespers. All established holidays are observed by the Church.

The Most Reverend Msgr. Reinis, Catholic (Roman) Archbishop of Vilnius, in an interview with a TASS correspondent recently. (As reported and quoted by the USSR Information Bulletin, April 30, 1947.)

Only Half The Story

Nearly all the evils of society prevail most where we (Catholics) live and not where Protestants live

It is in rural America where the family life is most wholesome, and where the divorce rate is still low. On the other hand, where the Catholics live, one-half of the marriages end in divorce. It is where they live that the big motion-picture houses are located, the filthy magazine racks, the taverns and gambling halls.

Catholic (Roman) Bishop John F. Knoll of Fort Wayne, Indiana, in a talk before the National Catholic (Roman) Conference on Family Life in Chicago, March 12, 1947 (as reported by the *New York Times*, March 13, 1947, and quoted by *The Converted Catholic*, May, 1947).

In the Question Box

A Word To The Wise

By Speakers Division, 8741-1

"What will be the result to the labor unions if they are abolished by Congress?

"Will Labor wake up to Technocracy or will it remain dumb?"

It is hardly likely that the labor movement will be abolished by Congress. That would not be good tactics. The forces of pro-fascism who are in control of the American Price System now are not that stupid. It is more likely that the program of social reaction calls for a severe restriction of the 'rights' and privileges of the movement. This will be the first step in a larger program to convert the American labor movement into an ally of fascism.

The fascists are moving into many key positions in the labor movement. In order to cover their activities, a big hue and cry is raised about communism. This is a part of the master plan of fascism to capture all North America. Fascism is moving into the fields of education, law, politics, business, labor, etc. The plan of operation is the same in all fields. First: infiltrate and capture the key positions. Second: subvert the institution being worked on from its original purpose or standards to others more suited to the concept of a fascist state. Third: when enough organized confusion and downgrading has been accomplished, then step in and take over all power.

The people behind this plan are what is known as the triple oligarchy. They are composed of vested interests in the fields of clerical fascism, corporate enterprise, and politics, or government. This is the same combination that has downgraded so many civilizations in the past. The

history books reek of misalliances between the nobility, the church, and the money changers. Today these same socially subversive forces operate with new names and more refined methods.

The master plan of fascism requires a smokescreen behind which it can operate safely. The reason is that all of its aims and objects are extremely odious to the true American tradition, or dream, of equal opportunity and the 'right' to pursue life, liberty, and happiness. Therefore, they move in under the guise of democracy brazenly waving the very flag their program will trample in the mud later on. But, this is not enough of a coverup. The people might catch on. So, something must be added.

In addition to the unctuous lip service to 'American Democracy' they need a 'fall guy.' There must be some one to blame, some one upon which to turn hate and prejudice loose. The communists fit this need nicely. They have everything it takes to make them good scapegoats. First: they are agents of a foreign power. Second: they are advocates of violence and political methods of reform and operation. Third: they know little, or nothing, about the physical trends or history of North America.

Hitler and Mussolini chose the communists for scapegoats for similar reasons. The pattern remains the same because the fountain heads of fascism that sponsored Hitler and Mussolini are still the same. The headquarters of fascism is still in Europe, but its main theatre of operations has been moved to North America. One of the chief parties of the triple oli-

garchy in North America, clerical fascism, has much in common with communism. For the most part, it is also an agent of a foreign power. It openly advocates social violence and political methods of operation. And, it knows little about the physical America. In addition it has one up on communism by having a socially reactionary record reaching back to the earliest pages of history.

This seems to matter little in the operation of the master plan for America. The reason they get away with it is because the clerical fascists occupy high and 'respectable' positions in the American social structure. Like Caesar's wife, they are beyond suspicion—almost, but not quite. If there is one thing the average American worships without question, it is SUCCESS. Anybody who has a fat pocketbook, a car a half a block long, or a smooth line of semantic hogwash is the archetype of what every American dreams about being. He will kowtow before this God any time, any place, and for any reason, or for no reason at all except that it's good Price System policy. The average American refuses to believe, no matter what the evidence, that people in high and sanctified places may not be what they seem to be. 'The King (SUCCESS) can do no wrong.'

However, with the communists, it's different. They as a group are at the bottom of the social ladder. They are not SUCCESSES. They do not look anything like the God of Things As They Are. In fact they look, talk and act like something foreign to this sacred concept. Their tactics are the same as those of the fascists, i.e., infiltrate, subvert, take over. The difference is that the communists are not socially reactionary. They are only socially muddle-headed and behind the times for the age in which we live. This puts them on the re-

ceiving end in the current seesaw for position and power. They get damned in advance for everything they try to do and damned afterwards for what little they accomplish. Every downgrading, corrupting, subversive social tactic that fascism is carrying out behind its smokescreen is laid to the communists. They are damned if they do, and damned if they don't. The communists have no comeback. Pot and kettle are both black. So, about all the communists can do is stand up and take it. This spectacle will become more interesting as time goes on.

The organized labor movement, like a lot of other Americans, has fallen into this fascist trap. They are so concerned with the immediate ends and objects that they lose sight of ultimate results. Many locals are so busy with red hunts that they cannot see the black flag of fascism being hoisted in their union halls. This is exactly what fascism wants. The labor movement does not know where it is being led. Pro-fascism is entirely willing to throw a few crumbs in labor's direction anytime it suits the purpose. At the time of this writing (Spring, 1947) voluntary wage increases are being granted to unions by corporation after corporation. At the same time, the most vicious anti-labor bill in American labor history is being pushed through Congress.

Already 13 states have banned the 'closed shop,' 3 States are submitting constitutional amendments to the voters on the question, and in 3 other States limits on the 'closed shop' are in effect, while in 3 States the 'check off' of union dues is prohibited. Labor is unanimously accepting the crumbs and only mildly protesting against the club. One might ask labor if it ever read the story in the good book about Esau who sold his birthright for a mess of pottage?

You are right, my friend. The American labor movement is shortsighted. It has not produced a labor statesman since the days of Samuel Gompers. That leader set the pattern for the American labor movement. It consists of three points, largely. These are: higher wages, shorter hours, better conditions. It was a pattern of operations perfectly adapted to an expanding Price System economy, in which Gompers lived. The American Price System, however, ceased to expand many years ago. Consequently, labor should have adopted a broader and longer range social program. It should have identified itself with the General Welfare of all Americans. This, it has failed to do.

As a result, organized labor has become just another minority pressure group within the framework of the Price System. It fights solely for special advantages for its members. These can only be acquired under the Price System at the expense of other minority pressure groups or of society as a whole. By this token, organized labor has alienated itself from the main stream of American hopes and aspirations. It stands, in splendid isolation, wide open to every economic and political storm that blows. Is this good labor strategy?

There are about 55,000,000 legitimate workers in the American labor force. About 15,000,000 of them are lined up in organized labor. At least 40,000,000 are unorganized. To be sure, 15,000,000 is, potentially, a powerful minority group. That presupposes, however, that they are correctly led. Also, we must remember that these 15,000,000 workers are not owners. All they have to sell is their labor power. Under the Price System of trade and commerce, technology is manipulated so that hourly wage rates will never catch up with increases in

output per man-hour. The market for labor power is a diminishing quantity. One might ask labor whether the dog wags the tail, or whether the tail wags the dog?

Technocracy has no quarrel with organized labor. It has pointed out on many occasions that the organized bargaining power of unions is necessary, under the jungle law of Price System operations. Every worker, if he is smart, will belong to a union. All the owners have unions, don't they? Well, it's only common sense. It's the best way to obtain immediate economic benefits. However, there is a longer range objective which is supremely important to labor also. That is nothing less than the General Welfare and common good of all citizens. In the end, organized labor will rise or fall with that. The possibility of the General Welfare being realized is just what fascism is trying to kill off. Yes, labor is tactically smart but strategically stupid.

If organized labor does not wake up to this higher concept of citizenship soon, it is going to be too bad for the unions. They will become converted into stooges for a fascist state as they were in Germany and Italy, and as they are in Spain and Argentina. Organized labor must purge its ranks of native fascists. The more 'respectable' they seem to be, the more dangerous they are. Organized labor must stop being led around by the nose in idiotic red-hunts against a non-existent communist menace. Does labor have enough brains and guts to do this. It remains to be seen.

Communism is no menace in North America. Fascism is. Communism may be sufficiently radical for European conditions; but it is too bourgeois for America. It is hopelessly inadequate for the social change required here. North America's problems will

not yield to social violence, political methods, or foreign ideologies of either the left or right. There is only one way to combat communism on this Continent. That is to adopt a more revolutionary social doctrine. This will also defeat fascism. There is only one Body of Thought native to the soil of North America that fits the bill. That is Technocracy. It has everything. Technocracy is at one and the same time the most truly conservative and the most utterly revolutionary social movement in existence.

Technocracy is anti-fascist. What is more important, it is also anti-Price System. This is the basic requirement for social change. No other social movement meets it. The Price System of trade and commerce is the root cause of most of our modern so-

cial problems. Ergo, abolish the Price System and we clear the way for a solution of our problems. That is the revolutionary part of Technocracy. The conservative part appears as follows: Nearly all the worthwhile things in our modern American culture came about as a result of the advance of Science and Technology. Technocracy seeks to conserve and enhance these things. These facts require a little study to understand. The Body of Thought of Technocracy is an open book. Every citizen is invited to join Technocracy and investigate it from the inside.

Organized workers everywhere in North America are invited to join. Technocracy is non-political, non-sectarian, and non-profit. A word to the wise is sufficient!

Labor—Take Notice

Two new machines which will affect the jobs of thousands of telephone workers are underlying causes of the telephone strike according to Raymond C. Brantner, vice-president of the Federation of Telephone Clerks of Illinois. One of the machines handles long distance calls, 'automatically recording the number from which the call is placed, the number being called, length of the call and the charges. It then debits the account. The data is then automatically played back to an even more complex device which makes a complete bookkeeping entry of the call.' The machine is now being tested in Pennsylvania.

'We're striking for a great deal more than \$12 a week. We are striking for our very existence,' said Brantner. If the machine is placed in use there will be no 'jobs for toll billers, sorters,

checkers, rate clerks, bookkeepers, ledger clerks, filing clerks and balance finders.' The other machine being tested in Rochester enables a person to dial other cities without an operator handling the call. (*Chicago Daily News*, April 7, 1947.)

The prefabricated housing industry produced 37,200 units in 1946. Production for 1947 is estimated at 100,000 or more units. Prefab manufacturers are stepping up production rates despite many obstacles. Among these are: 1. Local building code restrictions; 2. Opposition by local builders; 3. Opposition by labor unions; 4. Lack of qualified dealers; 5. 'FHA sluggishness in approving loans on prefab homes;' and 'public proneness to regard prefabs as "temporary homes."' (*Wall Street Journal*, March 18, 1947.)

NOTICE

To Our Readers

If you will send in seven names to 'Great Lakes Technocrat,' together with a one dollar bill we will mail each one a sample copy. 7 for \$1.00.

Facts in a Nutshell

Orders for new generating equipment now exceed 13,000,000 kilowatts. 'Present utility generating capacity' is about 63.2 million kilowatts,' according to H. S. Bennion managing director of the Edison Electric Institute. 'Based on estimates from a cross section of electric companies, the growth of the load of the utility industry in 1947 is expected to be slightly over 3 million kilowatts and the growth of the load in 1948 approximately the same. This is double our former notions of the normal rate for growth of load,' said Mr. Bennion. (*Wall Street Journal*, April 3, 1947.)

Production of Rototillers, which plow, disc and harrow in one operation was begun on April 1, 1946. Since then 30,000 units have rolled off the line and were sold. (Release of Frazer Farm Equipment Corporation, April 14, 1947.)

A Twentieth Century Fund survey points out that large-scale soil conservation and land development programs could increase agricultural production by 50 percent.

Public eating places account for the sale of one-third of all farm products (from release of American Dairy Association).

Nearly a third of the cost of distributing goods is accounted for by retail trade, says a Twentieth Century Fund investigation.

Some Technocracy Section Addresses in Great Lakes Area

- 8040-2—Box 356, Ambridge, Pa.
8041-1—1613 East 51st St., Ashtabula, Ohio.
8141-3—39 E. Market St., Akron, O.
8141-7—P. O. Box 270, Barberton, O.
8141-14—P. O. Box 553, Kent, Ohio.
8141-15—10537 St. Claire Ave., Cleveland 8, Ohio.
R. D. 8242—c/o John Reynolds, St. Clair, R. No. 2, Mich.
8341-1—3242 Monroe St., Toledo 6, Ohio.
8342-1—9108 Woodward Ave., Detroit 2, Mich.
8342-2—112 N. Tasmania, Pontiac, Mich.
8343-1—6717 N. Saginaw St., Flint 5, Mich.
8439-1—37 E. Fifth St., Dayton 2, Ohio.
8741-—3178 N. Clark St., Chicago 14, Ill.
8743-1—3546 N. Green Bay Ave., Milwaukee 12, Wis.
8844-1—620 S. Broadway, Green Bay, Wis.
8844-2—1011 W. College Ave., Appleton, Wis.
9038-1—4518 Delmar Blvd., St. Louis, Mo.
R. D. 9041—2428 13th Ave., Rock Island, Ill.
R. D. 9140—18 N. 5th St., Keokuk, Iowa.
R. D. 9344—Box 572, Uptown St. Paul 2, Minn.
9344-1—1924 Lyndale Ave. So., Minneapolis 4, Minn.
9439-1—P. O. Box 209, Kansas City 17, Kan.
9648-1—819 N. Duluth Ave., Thief River Falls, Minn.
R. D. 9737—4442 Bayley, Wichita 9, Kan.

TECHNOCRACY

NORTH AMERICA'S ONLY SOCIAL DYNAMIC

WHAT?

★ Technocracy is the only North American social movement with a North American program which has become widespread on this continent. It has no affiliation with any other organization, group or association either in North America or elsewhere.

★ The basic unit of Technocracy is the chartered Section consisting of a minimum of 25 members and running up to several hundred.

★ It is not a commercial organization or a political party; it has no financial subsidy or endowment and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$6.00 which are paid by the member to his local Section.

★ Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHERE?

★ There are units and members of Technocracy in almost every State in the U. S. and in all Provinces in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces.

★ Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHEN?

★ Technocracy originated in the winter of 1918-1919 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934, Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundations of the present nation-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHO?

★ Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life, Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this continent. Membership is open only to North American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective political office or active office in any political party.)

★ Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—as long as you are a patriotic North American—you are welcome in Technocracy.

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**Men of thought, be up and stirring
Night and day!**

**Sow the seed, withdraw the curtain,
Clear the Way!**

**Men of action, aid and cheer them
As ye may!**

**There's a fount about to stream,
There's a light about to beam,
There's a warmth about to glow,
There's a flow'r about to blow.
There's a midnight blackness changing
into gray.**

**Men of thought and men of action,
Clear the Way!**

Charles Mackay, Scotch Poet
(1814-1889)

GREAT LAKES TECHNOCRAT

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Illustrating the Futility of Price System Methods of Operation; Interpreting the Trend of Events from the Social Aspects of Science and Presenting the Specifications for Permanent Postwar Prosperity.

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Export and Die Anyway

By Harry Smith, 8342-1

Suckers at Home and Abroad

Under the heading 'All Is Confusion' a well known newspaper columnist, MALCOMB W. BINGAY of the DETROIT FREE PRESS starts his column of May 18 with this statement: 'My trouble is that I am not bright enough to understand things. I listen to all the experts. I go to all the noon-day luncheon clubs and town hall meetings and evening lecture courses. And I sit up all night reading the latest book advertised to make everything clear to me. But I feel like a tourist out in Los Angeles trying to follow the directions given by another fellow who doesn't know the city either.'

The columnist is not alone in his confusion; his perplexity is typical of all but a small minority of the population. One wonders how any one, who listens to politico-economic experts, can be otherwise. Such an expert is Averill Harriman, Secretary of Commerce and former ambassador to England, whose article, 'We Must Import to Live,' appears in the Saturday Evening Post of May 17, 1947. The sub-head reads: 'Having ruthlessly tapped our natural resources, we are becoming a "have-not nation." How can we meet this new and vital challenge to our future? The man charged with solving that problem reveals his program.'

Genuine Imported Stuff

Harriman during his sojourn in England saw British political and economic leaders go into a huddle and come out with the dictum: 'We've got to export to live.' He saw the English people 'accepting the most grinding sacrifices in order to achieve this objective.' Back home again, Harriman, foreseeing great trouble ahead for the United States, went into a huddle with himself, and came out with what amounts to the same play the English leaders had called, export to live. Obviously, he couldn't adopt the same slogan, so he thought up a new one: 'We've got to IMPORT to live.' Reverse English, so to speak. This thesis, developed through about three and one-half pages, comes to this conclusion: Not only have we got to import to live but export as well. In spite of clever diplomatic 'double-talk' EXPORT, not import becoming the mandatory priority. If we don't export, we can't import, so, after all, we've really got to export to live. It is quite confusing, especially if we keep in mind

the fact that exportation of our resources, raw or in the form of finished products, is the cause of our becoming a 'have-not' nation.

We are becoming a 'have-not' nation, Harriman points out, due to new and disturbing deficiencies in raw materials hitherto possessed in greatest plenty. High grade Mesabi iron ore, rich oil pools and our reserves of lead, copper, bauxite vanadium and zinc are fast becoming depleted. 'The richness of America's earth is running out.' Consider lead—we still produce more lead than any other country in the world; our 1945 output was 400,000 tons, world's highest, but it was only two-thirds of our output in the best years of our past. Our lead reserves have been depleted. We are now 'have-not' in lead to the extent of about 300,000 tons per year.

The expansion of our national income from \$64,000,000,000 in 1936 to \$165,000,000,000 in 1946, and a rise in employment from 43,000,000 in 1938 to 56,000,000 in 1946 required a lot of lead and other metals. In former years we exported lead at the

annual rate of 100,000 tons. (Nice export business, but rough on our heritage of natural resources.) Harriman doesn't tell us, and he doesn't need to tell us, that the big rise in income and employment from 1936 to 1946 was not due to import business but to war export business.

We are also short on various important alloys never plentiful in the United States: nickel, cobalt, antimony, manganese, vanadium, elements essential to modern metallurgy, the base of modern technology. It goes without saying that any such shortages must be met by imports, but, due to the small quantities used, these imports can contribute little toward saving our economy.

Holding The Bag

The article dismisses the possibility of developing marginal sources, such as shale oil and low grade iron ore, by pointing out the high cost of production and the need for holding them in reserve for future use and defense, our ace in the hole. This is the only conservation measure mentioned in the entire article. More efficient use of vital materials, or measures to prevent wastage, are not even suggested. It finally dawns on us that when Harriman shows us that we must export in great volume in order to live, he is not referring to the physical life of the people, but to the preservation of the Price System.

A stark revelation of the final tragedy of the American people, resulting from exhaustion of non-replaceable resources, is not even attempted, nor is this to be expected.

The ex-ambassador, conditioned from birth in the school of economics, seems only mildly concerned with physical realities. In common with all economic experts, he has been trained to think in terms of dollars, now largely

paper. When a nation sends dollars overseas whether loaned, leased or given away, it sends goods with them. It sends iron, aluminum, copper, lead, zinc, cotton, food, leather, forest products and similar goods. It sends abroad its raw materials, many irreplaceable. Importation of scarce raw materials, beyond the physical requirements of the people, for the purposes of trade and commerce simply accelerates the trend toward exhaustion of *all* materials, including those derived from mining the soil. The financier's omission of this significant point is readily understandable, but nonetheless confusing.

Harriman proceeds to unfurl his program with this statement:

If we simply faced the prospect of a growing deficit of raw-material resources, without anything to compensate for it, our situation would be serious indeed. Radical measures of planning, of conservation, of far reaching economic control, would be forced upon us.

Oh, no! No! No! Mr. Harriman! Planning! Conservation! Not that! As if dollars or anything could compensate for a growing deficit of raw-material resources. What does this man think people eat, wear and ride about on? Paper dollars?

Here he goes again, off into the mad realm of finance:

Fortunately, however, there is an aspect of our situation which can more than compensate for the 'have-not' trend, if we will but take advantage of it. We are already the creditor nation of the world, and we are still the primary source to which the world can look for capital to finance sorely needed projects of construction and improvement. As of the close of 1947, to be specific, United States Government and private credits and investments overseas will amount

to approximately \$19,000,000,000, not including more than \$3,500,000,000 contributions to the World Bank and Fund. Foreigners hold \$14,000,000,000 of dollar balances and United States securities and other investments, but a significant part of these holdings will be expended for American goods in the next two or three years.

Song of The Harpies

The above quotation has one meaning, only one, more exports. Goodbye to more American raw material resources:

For us, being the major—indeed, almost only large scale lending nation in the world is a new thing.

At this point, Harriman's mind wanders back to England.

It is too early to speak positively, yet I am strongly inclined to believe that what is happening to us may be compared with what happened to Great Britain in the middle period of industrial revolution.

He then reviews briefly the history of Britain's mercantile imperialism showing its foundation in Britain's coal and iron, the increasing depletion of the home supply and the nation's transition from an industrial economy, relying heavily on home resources, to an industrial economy relying on trade to provide much of the raw materials of industry. 'It was only after this transition that Britain attained her greatest wealth.' This was monetary wealth, Harriman wealth, not physical wealth.

He fails to state that it was depletion of British coal and iron through the conversion of those vital resources into pounds (sterling and paper) and the exportation of investment capital around the world that ruined the people of the British Isles. Remember how cold and hungry they were last winter?

Belatedly, he becomes a little conscious of the dreadful absurdity of his argument. He starts to hedge:

With a broad continent at our disposal, the process will hardly have such far-reaching effects on our economy, and our situation in many respects is fundamentally different. Yet, we cannot ignore the probability that we shall find ourselves caught up in this kind of general trend.

Then, calmly throwing diplomatic discretion into the waste basket, he proceeds to bull it through, ignoring the historical experience of John Bull.

'On the contrary, we must, so to speak, ride the trend confidently. Not to do so will be perilous folly.' In other words, it will be perilous folly for the United States not to follow the same economic procedures that pauperized the people of Britain.

One of these procedures is the export of capital and technical assistance for power and irrigation systems, improved transportation and other basic facilities. 'That will mean improved productivity, rising demand, and above all, the opening of hungry new markets for our industrial goods.' Export is the theme, export to live.

Who's Afraid of the Big, Bad Bear?

Finally, Harriman drops his big stink bomb, creating still more confusion. It is aimed at the Russian bug-a-boo. He refers to the 'great contest between the Soviet and western systems of life.' He fears that the spread of communism in strife-torn, economically weak countries may leave us 'politically isolated' and our 'situation will be equally grave.' We must 'behave as a wise and generous creditor.' We must bribe the leadership of sick, bankrupt, resource poor, fascist-ridden peoples around the world with generous credit, in order to block Soviet expansion. And what is at the bottom of the fear

of Soviet expansion? The fear is that such expansion will blot up some of our export markets. So his cry is for more credit, more dollars, more paper, more export, more exhaustion of resources, more war, more hell; anything to beat Russia!—and thus maintain value and price in America.

With the Russian problem solved, our Secretary of Commerce eases up a little. He tells us that this open handed policy is not to be permanent, merely a temporary expedient.

Our current lending abroad is intended to prime the pump of production. At some time in the future, a rough balance must be achieved between our exports and interest receipts on the one hand, and our imports and normal outflow of investments on the other. To strike this balance is the only healthy policy.

Pump priming again. This time it is the dried up wells of the world to be primed in an effort to stall off the inevitable collapse of the American Price System.

'As yet, we have not even roughed out a national conservation policy for the wealth of America's earth.' No, Mr. Harriman, we haven't, nor do the long, vague paragraphs which follow on how to balance exports and imports by increasing imports constitute such a policy. Constant mixing of philosophical concepts (interest receipts, securities, dollar balances, tariff, debt, credit, money, etc.) with the physical reality of raw material conversion into products, and the tonnage of those products dispersed from our shores, produces a goulash of words that not even an expert can digest. Indigestion is evident in this statement: 'While the broad trends and big principles are thus discernible, no one can tell precisely what the future will bring.' If your conclusion, Mr. Harriman, is confusion as to the future, if you, a recognized

leader, with free access to a great volume of pertinent information, are confused, what can be expected of Mr. Bingay and the rest of the reading public?

Pink Pills For Pale People

Simply stated, the problem that these national policy shapers face is this: America's technological productive mechanism, greatly improved and expanded during the past thirty years, now produces goods and services in quantities far greater than can be sold at home at a price high enough to maintain the existing financial structure. Goods, not sold, glut the market; mills and factories are forced to shut down; values decline and financial institutions collapse. The end products are depression, violence, chaos and death. The problem is what shall be done about America's value-destroying abundance. The following palliatives have been tried: Prevention of production by monopoly controls, shelving patents, shutting down of plants, etc., withholding products from the market by subsidized storage, producing inferior products (rapid obsolescence), the destruction of products by dumping, the terrific wastage of periodic wars, and foreign export. So far, all of these means combined have not been sufficient to effect the necessary scarcity. The experts are now concentrating on greater exports subsidized by Federal deficit spending.

Harriman backs this policy, although he professes to be a little worried about the depletion of American resources. His solution is curiously inane. It amounts to this: Exports are making us a 'have-not' nation, so let's increase our exports by increasing our imports. The patient is dying because of arsenic poisoning, so give him increased doses of arsenic. If you are running short of arsenic, import it.

So much for diplomatic obscurity, economic legerdemain, and political flapdoodle..

The Scientific Approach

Let us now consider another approach to America's problem, the scientific approach. Economics and politics are not sciences, they are philosophies. Facts are the building blocks of science. Opinions compose the nebulous castles of philosophy. Science is engaged with things and events in the external world; philosophy with concepts existing only in the minds of men. In philosophy, the terminology, having no referents in things and events, has different meanings for different people. There can be no complete understanding and, therefore, no complete agreement. No measurement is possible, for there is no yardstick, no unvarying unit. In the field of economics the dollar, indicative of value, may be exchanged for six pounds of bread today, three or ten loaves a year from today. Confusion is the common denominator.

Economic and political decisions evolve from desires, hopes, fears, guesses, opinions and beliefs. In science, decisions derive from facts. If sufficient factual data are not at hand, decisions must await further observation, research and experiment. The scientist must *know*. Beliefs have no place in scientific procedures. There can be no confusion. The scientific method has given us everything worthwhile that we have today, including America's unprecedented abundance, actual and potential. Suppose we apply the scientific method to the solution of America's 'have-not' problem.

State The Problem

First, a statement of the problem: To design a system for the utilization of America's resources that will effect the greatest extension of resources into

the future. Such extension to be consistent with an optimum standard of physical well being for the American people.

Analysis

1. As far as is possible, resources must be consumed by the American people.

2. There must be a minimum of wastage. Operations must be so designed as to produce the greatest possible thermodynamic efficiency. A research sequence must be an integral part of the design which must be flexible enough to accommodate the results of scientific progress, thus preventing stagnation. Optimum quality for all products, determined on the basis of energy cost of production, is also mandatory. Replaceable resources shall be substituted for non-replaceable resources whenever and wherever the best engineering practice permits.

3. The design must extend an optimum standard of living to every citizen. Fulllest expression of individual initiative must be assured so long as expression does not interfere with the welfare of others.

4. There must be no possibility of interference from non-scientific sources, such as business, politics, or ecclesiastical institutionalism.

5. The administrative organization must be such that arbitrary decisions cannot be taken by any of the directing or supervisory personnel. There can be no decisions other than those arrived at through the scientific method. Facts must be the sole arbiter.

Inventory

The next step in engineering procedure is to check materials, equipment and personnel to see if they exist in quantities sufficient to meet the above specifications. We find that the United States does not possess natural raw material resources in required quantity

and variety. Is it possible to specify an area of operations that does encompass geophysical conditions necessary for the achievement of such a program? Yes, the North American Continent. There are many reasons for specifying this area. Let us now consider some of them.

Nationalism as an ideal for social inspiration, achievement and security has been outmoded by technological advance. It must be replaced by a larger concept. Mercantile empires spread out around the world, supported by long lines of trade focused in a small controlling area, and defended by military and naval power, are passing out. British, French and Dutch mercantile empires are contracting.

A new concept of territorial operations, Contiguous Continentalism, rooted in geophysical factors, land mass, waterways, distribution of energy and material resources, population density etc., is already here.

The USSR is an example, a compact geophysical mass of the world's area, expanding around its periphery, thereby strengthening its military defense and amplifying the quantity and variety of its physical resources. Its boundaries enclose the second largest technological potential on earth. Future developments of its area technology can make this continentalism almost completely self-sufficient. its social ideology, regardless of how much you may hate it, tends toward achieving the consumption of its production by its own population within its own borders, thereby increasing the standard of living and security of its masses of people. No other large political entity possesses such an ideology.

No single political entity can combat with economic weapons the growing power of the USSR consolidation. Its expansion has been accomplished. Nor is it probable that a new United States policy of imperial mercantile

expansion, could, no matter how wide spread it becomes, compete effectively either economically or politically against the growing prestige of Russia. This is not the opinion of an 'expert.' It is the most probable conclusion arrived at through analysis of world resource and population distribution.

As to checking the spread of Russia's ideology by means of military pressure, no atomic bomb can destroy an idea, only a better idea can do that. Both the United States and Russia, in common with all other nations, operate under a Price System, buying and selling in terms of scarcity values and debt. The Price System controls, however, are quite different. In America, the control is economic. Corporate enterprise holds the reins. Political government, an instrumentality of corporate enterprise, controls people in a way favorable to business. In general, corporate enterprise dominates politics. This is the current official American ideology. In Russia, the Price System control is political, vested in one party, one man, a dictator. Politics dictates to business.

A Better Idea

In America, technological progression is making the Price System inoperable, and no form of political government, be it autocratic, bureaucratic, communistic, fascistic, republican or democratic, can save it. Communism may be sufficiently revolutionary for the scarcity economies of Europe and Asia, but in North America physical factors are dictating a more fundamental change, a change from politico-economic Price System controls over people to a functional control of resources and technology. This is the new ideology, the better idea that can transcend the Russian idea.

One other contiguous land area is ready for consolidation, that part of the western hemisphere lying between

the north pole and the equator, and between mid-Atlantic and mid-Pacific. Within these boundaries are located the lion's share of the world's known resources, a preponderance of technological equipment and a grand army of trained technologists. These factors, together with fertile land acreage, rainfall and climatic range, make possible an almost completely independent operation. Comparatively little foreign trade would be necessary.

The people of the two great political divisions of this Continent, Canada and the United States, speak the same language, have interests in common and both face the same crisis in their political and economic dilemmas. Consolidation of these areas for the mutual advantages of both peoples cannot long be postponed. The remaining political entities, Mexico, Central America and northern South American countries, must be brought into consolidation either by treaty or purchase. The peoples of these southern countries, now suffering from fascistic oppression, would benefit greatly in their standards of living by pooling their resources with northern areas.

The total area described is the minimum area for maximum defense and efficient operation. 'Technocracy contends that world peace can only be ensured and enforced by an offensive and defensive alliance of the two great contiguous continentalisms of the world—the Continent of North America and the Union of the Socialist Soviet Republics. These two continental areas dominate the world from the standpoint of geography, arable land, natural resources and technological potentialities. No world war could develop unless the material for such a war were procured from one or the other of these continental areas.'

Synthesis

Science pursues two paths, analysis

and synthesis. Technocracy, a scientific organization, proposes this social synthesis: The above designated area shall be named the North American Technate. All resources, together with all productive, service and defense mechanisms, shall be united, coordinated and operated by one technological control under designed direction. The control shall be functional, non-political, non-business, and non-sectarian.

For over 25 years, Technocracy has been preparing the design for the Technate, covering all the 'musts' for natural resource utilization and the physical requirements of the entire population as laid down previously in the above analysis. The design includes functional administration, providing for metered flow of raw materials and finished products, insuring optimum production with a minimum of human labor, and maximum free time for cultural pursuits. It will be a scientific distributive system providing continental accounting on the basis of energy conversion of all items produced and consumed, thus insuring a one to one ratio between production and consumption, a balanced load, free from booms and depressions. The design extends full, equal but not identical consuming privileges to all citizens of the Technate.

A new calendar is designed to produce a smooth continuous operation and balanced load on all services and recreational facilities. A continental hydrology system for flood and erosion control, power, irrigation, transportation and recreation, etc., is also a part of it. The Urbanate, for housing the urban population of the Technate, is the design to replace the dangerous congested plague-ridden rat-runs we call cities.

The Agrotechnology Unit will replace the outmoded farm, coordinating the production and processing of agricultural products, and providing top

living facilities for the rural population.

Space does not permit full description of the complete design, only barest outlines are given.

If you are confused by the flood of expert (?) opinions coming from public platforms, radio and press, then close your ears and open your eyes. Observe your physical environment, your land, your river systems, your underground storehouses of energy and mineral resources, and your incomparable technology mechanisms. Observe the results of the application of the scientific method. Check the measurements that have been made of the physical factors that give life, recorded in the standard units of mass, length

and time and derived units. Stop listening to Price System experts and arrive at your own conclusions. Beware of those scientists like Karl T. Compton, R. A. Millikan and Kettering when they step out of their laboratories to speculate in the dooryard of philosophy. Their statements then have no more validity than those of Moses, Vandenberg, Roger Babson, or Averill Harriman.

Technocracy has collected and correlated a vast amount of factual information. It is available to you. Analyze this data, and inspect Technocracy's design of social synthesis, the most probable for a New America of security and abundance.

Investigate and Join Technocracy!

Export America Unlimited

The U. S. Exports more than its democracy and technology. On occasion it likes to also give a helping hand to racketeers in foreign lands, for a nice Price, of course. James Wellard, *Times* Staff Correspondent, had a story in the *Chicago Times* on June 18, 1947 illustrating this helpfulness. It seems the U. S. Fleet was about to sail from Gibraltar to Naples. The big shot, wholesale, black marketeers of Naples got word of this. They chartered every available craft in Naples and sailed out to meet the fleet. It is reported that they purchased vast supplies of cigarettes and food from the Americans. Then they sailed back to Naples before the fleet and resold the supplies to retail black marketeers. Good Old Free Enterprise!

'Some authorities say the equivalent of a forty-acre farm with nine inches of top soil is swept into the Gulf of Mexico every minute. If this estimate be true, every hour of each night and day the soil of about four sections of land disappears. The fertility of an area the size of Rhode Island goes in two weeks and of North Dakota in two years. Con-

sidering the fact that there are only two acres of arable land between each human being on earth and starvation, every year the Mississippi river and its tributaries leave nearly 10,000,000 persons without their rightful share of the earthly basis for sustenance. Since nothing like that many people stop eating every year, the standard of living of the whole race goes down, down the river. These figures may be high, but even if they are divided by ten, they are still appalling.' (Thomas Alfred Tripp in an article in the *Christian Century*, July 30, 1947.)

'The fundamentally false position of the United States with respect to the United Nations can be remedied in the long run only by a sort of Rube Goldberg system of schemes whose true purpose of bypassing the United Nations is concealed in pious reassurances. No one is willing to take the blame for an open blow at the structure of that organization. Yet the way out is the one actually being taken—that of separate agreements among selected member nations.' (*Baron's Weekly*, May 5, 1947.)

The Figures Go 'Round and 'Round

What's a Billion Between Friends?

By Walter Palm, 7340-4

Alice never could quite make out, in thinking it over afterwards, how it was that they began: all she remembers is that they were running hand in hand, and the Queen went so fast that it was all she could do to keep up with her; and still the Queen kept crying "Faster! Faster!" But Alice felt that she could not go faster, though she had no breath left to say so.

The most curious part of the thing was, that the trees and the other things round them never changed their places at all: however fast they went, they never seemed to pass anything. "I wonder if all the things move along with us?" thought poor puzzled Alice. And the Queen seemed to guess her thoughts, for she cried: 'Faster! Don't try to talk!'

'Are we nearly there?' Alice managed to pant out at last. 'Nearly there!' the Queen repeated. 'Why, we passed it ten minutes ago! Faster!' Just as Alice was getting quite exhausted, they stopped.

The Queen propped her up against a tree, and said kindly, 'You may rest a little now.' Alice looked around her in great surprise. 'Why I do believe we've been under this tree the whole time! Everything's just as it was.' 'Of course it is,' said the Queen. 'What would you have it?'

'Well, in our country,' said Alice, 'you'd generally get to somewhere else, if you ran very fast for a long time as we've been doing.' 'A slow sort of country,' said the Queen. 'Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that.' (Lewis Carrol in ALICE IN WONDERLAND.)

Up Like a Rocket

In this age of astronomical figures in Federal appropriations, debts and taxes, we are apt to misjudge the magnitude of the amounts involved by the phonetic similarity of the words 'billion' and 'million.' By changing the first letter from an 'M' to a 'B' we are no longer thinking in terms of a thousand times a thousand but in terms of a thousand times a million, which is something entirely different.

The most satisfactory way in which to comprehend this striking difference is to compare the two on a time-rate basis. For example, to tick off a million seconds it would take a clock one week, four days and fourteen hours. To tick off a billion seconds would take 32 years.

At the present time the Federal debt is over \$260,000,000,000. To ac-

cumulate this staggering sum at the rate of one dollar a second would take 8,320 years. The first American dollar, however, was issued only in 1837 A.D. So, in order to accumulate the present Federal debt, our ancestors would have had to begin laying aside one dollar a second in the year 6,373 B.C. This is more than a thousand years before the earliest records of Egyptian civilization.

Equally fantastic is the little matter of some \$5,000,000,000 annual interest on this debt. Had the delegates to the Constitutional Convention held in Philadelphia in 1787 decided to create an emergency fund at the rate of one dollar a second, the amount saved up to the present time would just equal *one year's* interest on the present Federal debt.

From 1870 to 1917 the Federal debt ranged between one and three bil-

lion dollars. In 1919 (after World War I) the debt was \$25,000,000,000. By 1930 it had declined to \$16,000,000,000. From then on it rose steadily to \$43,000,000,000 in 1940. More than \$200,000,000,000 was added in the short span of only four years during World War II. Suppose the amounts disbursed during this period had been spent solely for the production of civilian goods for home consumption instead of war supplies for destruction. Our inventories by now would have risen to colossal heights and our unemployed counted in tens of millions.

Technocracy points out that the Price System has outlived its usefulness as a method of distribution, and predicts its collapse in the near future. Ever since the banking paralysis of 1933, our economy has continued to operate only as the result of more debt creation and Federal subsidies. No one has earned a dollar in the United States since 1933, except as a direct consequence of this provisional financial panacea. Mass production in overwhelming abundance, with modern, high-speed, streamlined technology, destroys jobs and values. Abundance can only be created by displacing human labor with machines and power. Debt creation, as a means of furnishing purchasing power to substitute for that which is no longer obtainable through the sale of one's services, mental or physical, is a typical politician's way of meeting an emergency with a temporary expedient. Debt inflation in such fantastic sums cannot continue for more than a short period of time without courting disaster. Moreover, it is definitely not a solution, permanent or otherwise.

It is high time the American people realized that the ancient, European Price System method of distribution is an anachronism on the North American

Continent. We are facing a denouement of progressive social disintegration by arbitrarily insisting upon its continuance. We are no longer living in a scarcity economy where production is carried on with human toil and hand tools. We can no longer depend upon precedents, traditions, opinions and intangibles for a *modus operandi*. Ours is distinctly a physical and scientific problem of producing an abundance in a high energy society with technology that is fast approaching complete automaticity. This is utterly without parallel or antecedent in the entire chronology of human events. The problem calls for a unique solution that is compatible with its phenomenal characteristics. Those who attempt to solve it by traditional methods are lamentably deficient in their knowledge of physical facts.

Down Like A Stick

The great majority of those who are employed today receive their income for services, not directly or even remotely connected with the actual production of commodities. Our contemporary economic system is composed of one gigantic hodgepodge of unplanned, individualistic, competitive enterprises operating in total disregard of social consequences. Individual and corporate cupidity and duplicity rules the roost in a wild and nefarious scramble for profits. This whole super-colossal, enigmatic and complex, commercial structure is the greatest the world has ever seen. It rests upon a tenuous foundation of banking institutions whose assets consist mainly of countless pieces of paper in the form of debt tokens and debt certificates.

Ours is essentially a paper civilization based upon myth and faith with the greatest and fanciest array of beautifully engraved I O U's ever concocted by man. This house of cards which we

have now stacked up to the tune of hundreds of billions in debt is the gossamer-like fiction upon which our whole economy functions or collapses. The last depression was of such magnitude that 79 percent of the cards were flattened. It was the worst we ever experienced and came within 21 percent of complete paralysis. We were just able to salvage what was left, through more debt creation and Federal subsidies from year to year. The record-breaking and stupendous expenditures for World War II (about \$300,000,000,000) hit the jackpot for an all-time high. This is what it has cost the American people to put business temporarily in high gear.

It may safely be predicted, however, that the force of the next depression will have the explosive potency of an atomic bomb. Depressions have a way of increasing in severity in inverse proportion to the preceding era of prosperity. We are now enjoying a boom in business that totally eclipses any previous era of prosperity in United

States economic history. It does not require a great stretch of the imagination then, to conjecture what lies ahead.

If the American people are wise, they will not wait for this catastrophe to take effect. An impartial investigation of the fundamental physical facts presented in Technocracy's analysis and synthesis will quickly convince any intelligent American citizen that there is only one way out of this dilemma. Become a functional member of Technocracy Inc., and wholeheartedly support Technocracy's program for a scientific distribution of abundance, **with the highest standard of living at the smallest cost in human effort the world has ever seen.**

If you are fed up with political incompetence, huge debts, high taxes, inflated prices, planned scarcity and economic instability and insecurity, you certainly cannot afford to remain indifferent. Join Technocracy Now, and help to usher in the New America of Abundance!

No Help Wanted

Robot calculators which can quickly solve intricate mathematical problems and store the answers on magnetic tape, a thousand answers to a quarter of a square inch of tape, have been designed. Edmund C. Berkeley, research consultant of Prudential Insurance Company told the Actuarial Society of America recently what the machines can do. They take in the data regarding a policy being surrendered, look up the cash value, interpolate for the premium paid to date, multiply by the amount of insurance, total any loans, compute the interest on each loan and total that, credit the value of any dividend accumulations and any premiums paid in advance, and type out the check in payment of the net value of the policy. Each machine can do the work of more

than 100 computers. (*Business Week*, May 17, 1947.)

'The Western Union Telegraph Company expects to have its first telegraph system using micro wave radio relay in operation between New York City, Washington and Pittsburgh in a few months. By this system it will be possible to handle 2,000 telegrams simultaneously in both directions, compared with a limit of about 285 under the present wire systems, Western Union spokesmen say. Work is reported well under way toward extending the radio-telegraph system from Pittsburgh to Chicago via Cleveland, Detroit and Cincinnati, and eventually it will be used Country-wide.' (*Commerce magazine*, March, 1947.)

BEAT THE DRUMS SLOWLY

I'm Just A Poor Cowboy

'To many business men walking the tightrope of inflation the major question of the day is no longer if, but when will the crash come and how far will they be carried in the fall. Few practical men who must concern themselves daily with the struggle to buy materials, arrange for their fabrication and to merchandise the resulting product can see anything ahead but chaos.' (Ray Moulden in his column 'Washington Roundup' in the "Chicago Journal of Commerce," September 2, 1947.)

Me And My Shadow

Debt — Death — Taxes

By H. Smith, 8342-1

Just how much do you pay in taxes? Did you ever try to figure it out? The Institute of Life Insurance released a statement in November, 1946 stating that the average family pays almost one third of its income out in direct and indirect taxes.

The direct taxes go to Government. The indirect taxes go to 'good old free enterprise,' to help lighten its burden. Every time you spend a dollar free enterprise takes a cut of it to help pay its own taxes, not yours. That's the way this Price System of trade and commerce works.

'Everywhere That Mary Went'

Political government, long ago, waded into the muddy pool of business. It is now in up to its ears. City governments are now in the business of transportation and other utilities, housing programs, highway building, education, recreation, public health, relief, dog catching, etc. State, County and the Federal Government duplicate these activities in addition to others not mentioned.

Federal government is deep in the financial business. Through loans and subsidies (foreign and domestic) veterans compensation, pensions, civil service and military personnel pay-rolls, and other benefits it now underwrites the financial structure of the nation. Federal financial manipulation, alone, maintains the flicker of life in the dying Price System.

Whatever business that is left, after the various governments take theirs, is transacted by individuals and corporate enterprise. Private business derives its income from the sale of goods and services to the consumer. Political government derives almost all of its income from taxes. The consumer not only pays taxes directly to the government, he also helps private business pay its taxes. This is the indirect tax hidden in the sales price of the goods he buys.

After the wage earner has paid his direct taxes to the government he is free to spend the remainder of his income with non-government enterprise. Thus we see private business and the government competing for the family income. If the private enterprise 'take' through sales of goods and services is increased, less is left for the government. If the government's 'take' is increased, business gets less.

Suppose we look at the family budget to see how income is split at present. The *Detroit Free Press* of May 4, 1947 printed some interesting data on what it calls an average Detroit family. This family's current income is \$3,000. It owns a home assessed at \$4,500, a dog, a car driven over 10,000 miles a year. It has a telephone and numerous electrical appliances. The adults consume tobacco, alcoholic drinks, and buy toilet preparations, and some luxury items. They go to ball games, movies, shows, etc. For all of this Mr. Wage Earner pays \$528.33 a year in direct taxes. This amount is very close to being 18 percent of his total income.

Added to this are indirect taxes, conservatively estimated at five or six percent. The account stated: 'So it is safe to say at least 24 percent of his earnings are being grabbed by the tax collector. And it is probably a lot more than that.' Mr. Wage Earner is work-

ing about three months for Mr. Tax Collector each year.

Taxes are increasing. In the year 1938-1939 a middle income family paid 17½ percent in taxes, direct and indirect. Today it is about 24 percent or an increase of 37 percent, about 5 percent each year since 1939. At that rate in about 15 years from now the tax collector will grab the family's entire income, leaving nothing to live on. Mr. Wage Earner is being literally taxed to death.

More of the Same

It is highly probable that taxes will continue to increase. Thousands of towns, and cities like Detroit, are hardly able to budget the cost of operations at bare maintenance levels, leaving nothing for improvements. They have reached their bonding limits and must go to the people for more taxes. Many states, like Michigan, are having plenty of fiscal trouble, especially those with tremendous veteran's compensation payments staring them in the face. New taxes is the answer, the only answer.

The federal government can continue to borrow as long as the bond market holds up but it must pay the service charges on the indebtedness, along with current operating expenses, out of its annual budget. If it continues to finance the Truman Doctrine (American Price System salvation

through World Salvation) it will cost one aitch of a lot of money. Foreign aid since July 1, 1945 amounts to \$15,810,000,000 according to Senator Byrd. This is peanuts compared to the amount U. S. must spend abroad to keep business going a short time longer at home.

So the Price System answer is more debt, and more debt in the final answer means more taxes. You are invited to tax yourself to death in order to support a dying system. There is only one sensible way out of this dilemma Mr. Wage Earner. That is to let this ancient and lousy Price System die. It will be good riddance of bad rubbish.

Technocracy addresses all wage and salary earners in all income brackets. There is nothing in store for you under the tyranny and regimentation of the Price System except more taxes, more debt, more war, more booms and depressions, more insecurity, more racial and religious strife, more abstract freedoms and less real liberty.

Is this what you want? If not it's time to wake up and find out what to do about it. Let's all get together and take action to install a non-debt, not-tax, non-war, non boom and depression, non-sectarian, non-Price System type of civilization on this Continent. IT CAN BE DONE.

Join Technocracy and learn all about it.

Price System Deadheads

'There are at least a half a million tax-exempt organizations. This includes every local of a trade union. It includes the income from rental producing properties owned by some unions. It includes religious organizations. At least 10,000 tax-exempt foundations are approved by the Treasury and the number may be nearer 15,000.' (Marquis Childs in his

column in the *Chicago Times*, June 9, 1947.)

'For the first time in their history, life insurance companies made less than 3% on their investments in 1946. The earn-rate was 2.92%, compared with 3.07% in 1945, 3.61% in 1940, 5.25% in 1925.' (*Time*, June 9, 1947.)

Ten Commandments of The Price System

f. o. b. Anywhere on Earth

By The Peripatetic Technocrat

And Free Enterprise spake these words, saying: 'I Am the Operating Rules that have brought prosperity to the blessed minority, my disciples. If thou keepeth my commandments thy days shall be fruitful upon the land I giveth thee.

'If thou practiceth these commandments diligently thou shall flourish mightily. However, thou must always render loud lip service to the exact opposite set of precepts. It sounds better and keeps Homo the Sap safe in the arms of organized confusion.'

Yea, verily! Thus spaketh Good Old Free Enterprise, alias the Price System of Trade and Commerce.

The Ten Commandments

1. 'Keep wasting the good earth and the substance thereof, for thy greater profit.
2. 'Keep public education downgraded, for correct knowledge is bad for the status quo.
3. 'Keep subverting the law so as to extend and sanctify the concept of private rights over public property.
4. 'Keep the political three-ring circus (legislative - executive - judicial) going full blast so as to divert attention from the scientific approach to social problems.
5. 'Keep harping about the abstract liberties of political democracy but keep the realities of physical democracy out of sight at all times.
6. 'Keep the churches busy with circumlocutions about the dead past and the unknown future lest they acquire sociological ideas about the living present.
7. 'Keep a majority of the people always on the precipice of insecurity, ill-fed, ill-clothed, ill-housed, and in poor health, so they will always battle among themselves for preferential ad-

vantages and not unite for the General Welfare of All.

8. 'Keep the press, movies, radio, art, literature, etc., free from any taint of social intelligence by suppressing and distorting information pertinent to the real operations of the status quo.
9. 'Keep engineers and scientists well supplied with stuffed shirts and ivory towers, lest they see the social aspects of their work and get funny ideas.
10. 'Keep all Goods and Services scarce enough to command a nice, fat Price, lest Abundance overwhelm them.'

Keep Wasting The Good Earth—

The first white settler arrived in Virginia in 1607. The Mayflower landed her passengers in 1620. As early as 1685, according to Karl B. Mickey of the Public Relations Department of International Harvester Company in the Company's book entitled *Man And The Soil*: '... settlers on the eastern seaboard had remarked an increase in floods due to cutting down the forests. Streams that previously had run clear now ran brown with silt.'

Since that time 340 years ago when the Price System was imported into

North America it has done a big job of wasting forest resources. About 5/6ths of our standing timber has been cut down and not replanted. Over the decades the floods have grown more severe and widespread. The report of the Secretary of Agriculture for 1946 reveals that the yearly drain of saw timber from our remaining forests now exceeds annual growth by about 50 percent.

George Washington warned against the soil mining practices prevalent in his day. Thomas Jefferson complained in 1817 that: '. . . fields were no sooner cleared than washed.' (Man and the Soil)

A. R. Hall in *Early Erosion Control Practices in Virginia* quotes an anonymous letter-to-the-editor written in 1831: 'The scratching farmer's cares and anxieties are only relieved by his land washing away. As that goes down the rivers he goes over the mountains.' (Man and the Soil)

J.D. B. De Bow, professor of political economy at the University of Louisiana wrote in 1853 about: '. . . fields exhausted, washed into gullies and abandoned . . . soil greatly deteriorated and diminished . . . more and more exhausted every year. It is most clear that sooner or later an absolute state of exhaustion must result.' (Man and the Soil)

H. H. Bennet, Chief of the Soil Conservation Service states in his book, *Soil Conservation*, that more than half of the 1,904,000,000 acres comprising the total land area of the U.S. is affected by erosion to some degree. Bennet estimates that about 700,000,000 tons of soil are carried into the ocean every year by the Mississippi River, alone. This is an annual loss of 7,000 one hundred acre farms.

L. C. Gottschalk, geologist of the Conservation Service states in *Soil*

Conservation magazine for July, 1944 in an article entitled 'Sedimentation in a Great Harbor' that: In the last 100 years the federal government has removed 111,000,000 cubic yards of material from Baltimore Harbor, alone. (Man and the Soil)

The report of the Secretary of Agriculture for 1946 reveals that 43,000,000 acres now in crops are not fit for cultivation. He states: 'It would be much better for the United States if it were not necessary to plow that land any more.' However, there's the Price System Mr. Secretary.

The report of the Soil Conservation Service for 1946 reveals that: 'Recent studies indicate that 59 percent of the dust of the 1930's came as the result of farming land unsuited for cultivation. About 38 percent of the serious erosion occurred on second-grade land which could have been farmed safely if proper methods of wind-erosion control had been used. Only 2.3 percent of the wind erosion came from neglecting conservation practices on good land.'

—And The Substance Thereof

It is not in soil mining alone that Free Enterprise obeys the first Commandment of the Price System. The normal operations of Free Enterprise are made possible by the calculated practice of waste. There is a mountain of evidence on this point available at any good library. Wastes due to manufacturing nonstandard goods and low quality products, to duplication, competition, destruction of 'surpluses,' and the creation of artificial 'wants' by advertising are all normal, good business.

Stuart Chase and F. J. Schlink state in their book, *Your Money's Worth* that the U. S. Chamber of Commerce has estimated that: '. . . one quarter of all industrial effort in America is wasted because of irrelevant over-

diversification of styles, types and sizes.'

The National Resources Committee stated in their report, *The Structure of The American Economy* that:

Wastes through the failure to use the best techniques of production and through faulty exploitation of natural resources likewise contribute their quota to the total waste . . . Practically every individual in the community suffers as a result of these wastes.

Nonreplaceable minerals are also wasted on a huge scale. Germany built up a gigantic war machine with a prewar steel output that never went over 22,000,000 tons a year. This was about one third the production of the U. S. at that time. In 1941 the U. S. produced 74,000,000 tons of steel. This was not enough for the colossal waste of war. Today, production is around 90,000,000 tons. Even this is not enough for the more colossal waste of the peace of the Price System. Many operations are curtailed even now because of a 'shortage of steel.'

The basic wealth of the U. S. is being squandered at a very high rate. The *U. S. News* for July 4, 1947 reports the following life span for some of America's mineral resources. Lead, 10 years, petroleum, 15 years, copper, 19 years, zinc, 20 years, high grade iron ore, 17 years. It is stated that: 'In some minerals reserves are so small that quantity comparisons with consumption cannot be made.' However, this does not worry Free Enterprise. In fact, it intends to capitalize on it.

High cost, nonferrous mines were granted premium prices during the war to increase production. An effort was made at the last session of Con-

gress to make these subsidies permanent. The bill was passed, but the President vetoed it.

So-called 'depletion allowances' running as high as 23 percent of gross income were also granted to mining companies who sold their reserve stockpiles to the war effort. That is, these favored producers were permitted to deduct up to 23 percent from their gross earnings before computing taxable income as a reward for liquidating their inventories. The fact that they got a good price for these reserves means nothing. The fact that America was at war and needed those reserves means nothing. All 'Good Old Free Enterprise' could see in the situation was an opportunity to chisel.

These 'depletion allowances' have now been made permanent by act of the last Congress and a Presidential signature. A long list of minerals is included, such as: coal, oil, bauxite, phosphate, fluorspar, graphite, vermiculite, beryl, feldspar, mica, talc, barite, clay, asphalt, potash, etc. Good deposits of these, and other minerals, are becoming scarcer in the U. S. Consequently, it is in order that we must compensate the gentlemen who own them for the depletion of 'their' reserves. How do you like that?

The Interior Department estimates that the oil industry wasted (burned off) 684,000,000,000 cubic feet of natural gas in 1943 alone. All during the war the oil industry got a 15 percent 'depletion allowance' from Uncle Santa Claus. We wonder if they got 15 percent on the burned off gas too? Try and find out.

Yea, Verily! 'Keep wasting the good earth and the substance thereof for thy greater profit.'

'Keep Public Education Downgraded'

Harry Elmer Barnes, educator and historian, writes in his book *Social*

Institutions, page 727, as follows about American education:

The men who made the first World War, those who threw us into it, those responsible for the great depression of 1929, and those who brought on and extended the second World War were literally the best that our educational system could produce; and their works are as much as we can reasonably expect from this type of education.

In other words, what Mr. Barnes is saying is that Price System operations produce a Price System type of education which in turn is geared to operate the Price System according to its ancient and lousy standards.

In 1942 the U. S. had about 860,000 school teachers. During the war and postwar period 350,000 of them quit to take up other work. Their places were filled in part by inferior personnel. Today, the nation is still short about 70,000 teachers. A *New York Times* survey recently revealed that about 200,000 teachers are paid less than \$25 a week, and the average salary is \$37 a week.

The U. S. spends only about \$3,-000,000,000 a year, or 1½ percent of its national income on education. However, it manages to afford about \$20,000,000,000 for alcohol, tobacco, recreation, and beauty preparations. We don't know how much the 'Godless Russians' spend on the latter items. But, their budget reveals that they spend about \$7,500,000,000, or 8 percent of their national income on education.

The Census of 1940 reveals that only 40 percent of the male population of the U. S. got a grammar school education, only 20 percent went through high school, and only 12 percent had the dubious privilege

of one or more years at college. However, the war and postwar period increased the number of youth seeking more education. At present there are 2,100,000 students enrolled in colleges. Over 1,000,000 of them are under the G.I. Bill of Rights.

Robert M. Hutchins, Chancellor of the University of Chicago referred to this in a talk recently, quoted in the *Chicago Sun*, May 16, 1947. He said that the G.I. Bill of Rights:

... originated not in the desire to educate the veterans but in the forebodings of the economists who were sure that there would be six to eight million unemployed within six months after the war.

Likewise, he stated, that the National Youth Administration during the last depression: 'did not result from the conviction that people must be educated even if the stock market falls, but from a desire to keep them off the labor market.'

Columbia University recently published a study by Dr. Hubert Park Beck entitled *Men Who Control Our Universities*. In it he analyzed the membership of the governing boards of trustees of thirty leading American universities. It comes out about like this.

Only 6 percent of the board members were educators. Bankers and business men composed 41.5 percent. Lawyers composed 39 percent of the boards of State universities. In some cases the proportion of lawyers went as high as 75 percent. Universities with approved medical colleges had only 4 percent physicians on their boards. In 8 medical colleges not a single physician was on the board. In two engineering schools studied only 6 percent of the board members were engineers. Only 1 percent of the

trustees were farmers, and 1.6 percent homemakers. No clerical, or unskilled workers, and only one labor union official were found on the boards.

The average age of the trustees of our 30 leading American universities is 59 years. Forty seven percent of them were over 60 years old, and 20 percent over 70, while only 26 percent were under 50 years of age. The total membership of all the boards is 734. These persons are the bell- weathers of American education. They set the policies.

Harry Elmer Barnes in his book *Social Institutions*, pages 775, 776 and 727 expresses the downgrading of American education like this.

Our educational sociologists have stolen no thunder from Stalin, nor even from Norman Thomas. At the best they are only giving what Lester F. Ward said more candidly and far more thoroughly over 50 years ago. . . . With respect to our basic institutions and beliefs, our educational system conserves the past almost as completely and religiously as did the primitive council

of elders and the tribal medicine men. No teacher is in much danger analysing the binomial theorem, but the teacher who resolutely describes our economic and political system is constantly flirting with dismissal . . . The social studies present the only cogent information that can enable us to bridge the gulf between machines and institutions. . . . Education is our best safeguard against Fascism and Communism. . . . In an era of social decline and barbarism, there is little place for education. Let those who are sceptical about this statement study the history of the Dark Ages, and let those 'who are sceptical about the return of another Dark Age study world events of the last fifteen years.

Yea, Verily! 'Thou must downgrade public education for correct knowledge is bad for the status quo.'

Editor's Note: Due to the length of this material it is necessary to run it in several installments. In our next number we will present the evidence showing how Free Enterprise obeys the Third and Fourth Commandments of the Price System.

Commandment of Science

' . . . the commandments of science: Believe not your eyes, nor your ears, nor your senses. Believe not what seems to be or what appears to be. Believe not what other men have spoken—until you have proven it yourself. Cast aside these things and supplant them with precise and proven thought. Then you will have science. Be not swayed from living to those words for they are the words of science—and science is the salvation of the world.' (Galileo Galilei, distinguished Italian physicist, 1564-1642.) As quoted on the radio program 'The World Is Yours' conducted by the U.S. Office of Education, April 30, 1939.

'The technology of abundance cannot

long coexist with a scarcity economy and philosophy. We must either put our machines to work directly for human service in an efficient manner or be resigned to the collapse of both our economic order and our technological equipment. Every year that passes gives greater evidence of the incompatibility between our technological prowess and our archaic economic ideas and practices. Many believe that the only solution lies in handing over the control of our economic life to trained industrial engineers, who can set up a planned and efficient economy.' (Harry Elmer Barnes, educator and historian, in his book *Social Institutions*, page 865.)

Don't Blame It On Human Nature

By Hadley Cantril, Professor of Psychology at Princeton University

Reprinted from the *New York Times Magazine*, July 6, 1947

A psychologist offers an explanation of our social conflicts and suggests a solution.

Living as we do in the midst of numerous conflicts and of vague forebodings that even more and greater conflicts lie ahead, we are apt to wonder if the situation has to be as it is. Why is it that the only thing we can be sure about in tomorrow's newspaper is that the front page will continue the story of old frictions on the domestic or international scene or headline some new conflicts on the horizon? Why must men get themselves so embroiled? Is there something in 'human nature' that makes all this trouble inevitable?

In critical times like these the phrase 'human nature' is batted about by columnists, politicians, commencement orators and spokesmen for special interest-groups who either openly or implicitly have their own versions of what man's nature is. Some see the reason for all our turmoil in 'the cussedness of human nature.' Others assume that 'human nature' is aggressive and pugnacious, thereby making conflicts and wars inevitable. Some think that man is by nature selfish and competitive and that the best we can hope for is to establish some fair rules within which man's 'competitive instincts' will be forced to operate. Others, more sentimentally inclined, argue that man is by nature kind and cooperative but has been perverted by what they call modern civilization.

Whatever the views expressed, the chances are that they are rationalizations for perpetuating the system of

ideas, institutions or social and economic conditions that their exponents subscribe to. Occasionally they are assumptions on the basis of which a good-will reformer is urging a social change.

And while being assailed by all these theories as to what human nature is, we are also likely to hear from the rostrum, the pulpit or the radio a repetition of the thesis that the physical sciences have far outstripped the social sciences so that what we need today is a more vigorous study of 'human nature' to catch up with our knowledge of nature itself.

What can a psychologist say to all this? Or, to put it more strongly, what should a psychologist say to all this in his joint role of psychologist and responsible citizen? The psychologist has a self-appointed duty to try somehow to clarify the discussion of human nature, because he knows that much of the talk is potentially dangerous. He knows that some proposals for action, some important policies, are based on false premises concerning this thing called 'human nature' and are therefore bound to turn into cruel illusions, bringing further conflicts and misery in their wake. On the other hand, some proposals promise more lasting progress because they are based on assumptions that square with what the psychologist and the social scientist know to be factually true.

What, then, is this thing we call 'human nature'? Let's take a look at it the way a psychologist would.

He would point out first of all that 'human nature' is an abstraction, one of thousands of abstractions upon which men unfortunately operate. The

psychologist would say that this abstraction, like all other abstractions, can be understood only in relation to a specific individual or individuals reacting in concrete situations.

Take yourself, for instance. Presumably you are a living example of 'human nature.' What constitutes this 'you'?

If we stick to a naturalistic explanation and avoid any easy supra-natural or mystical generalizations, we find that this 'you' consists of a physical organism endowed with a host of wonderful mechanisms and devices for adjusting to a certain part of your physical environment. We find, too, that you have certain basic desires and needs—among them, sexual desires and a need for food and protection from the elements. Beyond a few such basic needs most psychologists cannot yet go. They cannot subscribe to the existence of a whole host of instincts or a long list of needs which some men have conjured up as 'explanations' for the varied directions human activities take.

In addition to the basic needs, you have a number of capacities—among them the ability to use words and concepts—which distinguish you as a human being from all other living organisms. Biologists seem agreed that man is an emergent species endowed with certain capacities which are qualitatively different from those of his nearest neighbors in the evolutionary scale and which make him unique. (So any analogies of human behavior to the behavior of other animals are highly suspect.) In addition to these capacities and physical characteristics common to you and other human beings, you yourself have certain dispositions, certain temperamental characteristics, certain skills that are mainly biologically determined and that make you, as an individual, a unique personality, unlike all other people on the face of

the earth unless you happen to be an identical twin.

In addition to these biologically determined drives and characteristics, you have certain tastes, certain standards, certain attitudes, certain beliefs, certain values and identifications. These are the things that give the direction to your behavior. These are the things that spell out what you regard as purpose, what you would consider as your own self-interest. The all-important point to remember is that these tastes and standards, these attitudes, beliefs, identifications and values are things you have learned or that have been formed for good psychological reasons in the course of your life. They are not innate and inborn in the sense that your sex and your temperament are inborn.

You will know without being an ethnologist that tastes, standards and values vary from one culture to another. And if you have walked on the other side of the tracks, visited other parts of your city, mingled at all with people not in your own social class or your own customary groups, you will also know that tastes, standards and identifications vary a great deal even within a single culture.

If 'human nature,' then, means anything at all, it must include not only the innate biological characteristics that make you not only a human being but a unique human being; it must also include the direction of your individual or your group effort as learned or formed through the identifications you have made in your particular process of becoming a member of society.

An important and necessary part of the psychologist's account of human motivation is found in the individual's identifications with a specific group. For it is this that gives him his status, that builds in him his ego-satisfaction.

Thus he strives to maintain or enhance his status; he strives to place himself as far up as he can in that social hierarchy whose values have become his.

If we could get firmly into our minds this distinction between those characteristics of man that are biologically determined and those directions of his activity that are learned according to the particular ideas of the particular social and economic groups with which he has lived, a great deal of the vagueness surrounding the phrase 'human nature' would disappear.

Examine, for instance, the statement that 'human nature can't be changed.' Obviously, we cannot change the genetic characteristics of man (except perhaps experimentally). We cannot create people with three eyes; we cannot create a third sex; we cannot so change people that none of them has an I.Q. of less than 180. But this has nothing whatever to do with the potentiality of changing the *direction* of man's efforts.

Whether a man is going to be a 'competitive' or 'cooperative'; whether he is going to be a Catholic, a Protestant, a Mohammedan, or an atheist; whether he is going to be a Republican or a Democrat—such things are almost entirely determined by the particular set of conditions and values the man has learned. These identifications, these modes of behavior, even if diametrically opposed to each other, all serve the same basic psychological function for the individual. We do not need to drag in any instinct of gregariousness or any innate drive for status to account for man's activities. Group identifications emerge inevitably because man lives, not in complete isolation, but with other men.

'Human nature,' then, is anything but static and unchangeable. It can and does change with conditions. In fact, it is always changing. And not

only is there gradual change, but frequently there is the sudden emergence of new qualities and characteristics formed when a single individual or group of individuals find themselves in a new set of conditions. Technological developments, for example, such as the steam engine, the airplane, the harnessing of atomic energy, at first provide some means to a specific end. Generally, however, they soon begin to affect and modify the ends themselves.

Take, for example, the following case of a complete 'reversal' of 'human nature' effected by a war-created situation in a normal American boy who was not 'cruel' or 'pugnacious' by disposition. The case was reported to me by one of my Princeton students who knew the captain he describes:

'The captain was a Southerner in his mid-twenties. He had been a rifle company commander on the Western Front. He was very well liked by both his fellow-patients and the hospital personnel. His outstanding personality traits were modesty and the friendliness and kindness of his disposition. As a boy he had been fond of duck-hunting but had given up the sport because, as he said, "I didn't see much use in killing." Once, during a discussion of war experiences, he told the following story:

'He had commanded a company during the disastrous Battle of the Bulge, when the German Army had broken through the American lines in the Ardennes Forest. The captain found himself cut off from the rest of our forces and surrounded by the enemy. His situation was desperate. He had only about forty men left, no food, little ammunition and no idea where the American lines were. In addition to these difficulties, his company had a large number of German prisoners on hand. There was no way to get rid of the prisoners by sending

them to a camp in the rear area. Guarding them with his depleted forces was out of the question.

"Therefore, he determined to kill the prisoners. He and the sergeant took them out in the woods in small groups and shot them. Among the captain's group was a young boy, only about 15 or 16 years old. The captain concluded his story with this remark: "He was crying and begging me to save him and I was kind of sorry I had to kill him." "

Hundreds of illustrations of this type could be given, with respect not only to individuals but to the changed direction of group activities such as occur in revolutionary situations. People are not gangsters or law-abiding citizens, Fascists or Communists, agnostics or believers, good or bad, because of innate dispositions. People's actions do not take the directions they do because people are blessed or cursed with a certain kind of 'human nature.' People's actions take the directions they do because a certain set of conditions has provided status, meaning and satisfaction, or, in critical times, because status, meaning and satisfaction must be sought in new ways.

Hence conflicts between one individual and another, between one group and another, are inevitable so long as conflicting identifications and conflicting purposes, springing from social conditions, persist.

These conflicts will never be resolved by compromises or attempts to 'change human nature' on any individualistic basis. They will be solved finally only when social, economic and political relationships are so arranged that an individual, while retaining his own purposes, his own status and his own ego-strivings, can identify these with the larger, all-inclusive goals of the whole society. Personal goals must become socially valuable goals and

social goals must become personally valuable.

It should be stressed that this idea of a common purpose does not mean a leveling off of taste, interest, or performance with respect to the inherent and unique capacities and temperamental characteristics of the individual. For these differences in abilities and temperament will determine the specific role an individual can fruitfully play within the group and within the larger interests of society.

Some one is sure to ask the psychologist why, if he thinks he knows so much about human nature, can't he do something about it? Why must we endure unending conflict? Why can't the social psychologist tell people—especially those in power—what should be done?

Unfortunately, the psychologist knows that many people have so identified themselves with their own group standards that they would, literally, rather die than give up their identifications. Hence, we have conflicts between those human beings who identify themselves with capital and those who identify themselves with labor; between those who have become identified as Arabs and those who have become identified as Jews; between those who call themselves Moslems and those who call themselves Hindus.

In his recent address at Princeton's bicentennial, President Truman said that 'As we gain increasing understanding of men, comparable to our increasing understanding of matter, we shall develop, with God's grace, the ability of nations to work together in lasting peace.' But the psychologist must point out that since an individual is largely what he has identified himself with, and since his identifications define his purposes, no amount of purely intellectual understanding is enough to bring about any change in the direction of his activities. The sort

of understanding that changes purpose is one that a person somehow gets below the neck.

In casually patterned societies such as ours is today, the psychologist and the social scientist are apt to be laughed off by the 'man of affairs' as impractical and starry-eyed dreamers. We need not argue the claim that the physical scientists are ahead of the social scientists. It is difficult to know what measuring rod one should use. It might, however, be pointed out that the problems of man and his relationships are probably even more complex than the problems of nuclear physics and not so amenable to controlled experimentation.

But the main point is that we already know a great deal more about man and his social relationships than most people in our casually patterned society are willing to use. And we also know why people aren't willing to pay attention to scientists who deal with people. Apparently we have to wait until people learn the hard way that real democracy and real world peace can come about only when human beings recognize their common purposes as human beings.

Further, they must see that the dignity and uniqueness of every individual (pathological cases aside) can be preserved and enhanced without in any way running head-on into the common purposes of all men.

We can say, then, that there is nothing fixed, or static, or immutable about human nature. We can say that there is no single accurate characterization of it. We can say that it is fluid, constantly changing, that occasionally, under a new set of conditions, it exhibits new and heretofore undreamed-of possibilities. *When conditions are changed, human nature is changed.* (italics ours)

Human nature as it characterizes any group at any given time is what it is because of the conditions under which the individuals in that group have matured. *And the only way to bring about the human nature we want is to plan scientifically the kind of social and economic environment offering the best conditions for the development of human nature in the direction we would specify—a direction that spells freedom from group conflict and freedom for personal development.* (Italics ours)

Optimism or Technology

'Concrete evidence of optimism in the oil industry is the huge pipe line building program now in progress. The program, in full swing this year, will add at least 6,000 miles of oil pipe line to the nation's present system of more than 142,000 miles, operated by 44 oil pipe line companies. It is estimated that by 1950 the network of oil pipe lines may total 150,000 miles—approximately equal to two-thirds of the nation's railroad right of way.' (*Commerce magazine*, March, 1947.)

The first hydraulic bark stripper in Canada is now in operation at the Powell River Company, Powell River, B. C. The equipment removes the bark from logs ranging in size from 5" in diameter to 6' by means of a powerful jet of water. Besides being much faster the hydraulic stripper eliminates wastes. Former methods also removed much of the wood. It is said that enough pulpwood will be saved in 1947 to supply paper for all of British Columbia's newspapers for the next two years. (*New York Times*, January 26, 1947.)

From The Camera's Eyevew

Dog In The Manger

Every Man A Superman

Psychologists tell us that when the 'mind' is not consciously busy on some problem it is likely to engage in daydreaming. This is a form of fancy in which the 'mind' idles along in an illogical train of thought, solving problems with ridiculous ease. In daydreams we all become beautiful, strong, talented, powerful, and saintly.

Everybody indulges in daydreams but scarcely anyone will admit it. Psychologists find several reasons for this. Among these are the fact that daydreams are chiefly escapades in self glorification. They please the EGO. For that reason they are kept private, since the ego recoils from the public ridicule that might follow their open recitation. Then, there is a social stigma attached to daydreaming. It is considered a lazy and harmful habit.

People often daydream about the past. They dream about what might have been. One often hears them say: 'If I had known then what I know now, things would be different.' We daydream about the smart deals we could have made, IF; and about the jobs, chances, and wealth we could have had, IF; and so on.

People also daydream about the future. That's what the farmer is doing in the picture below, maybe. The time is about 1870. Perhaps he's dreaming about the ways and means to ease his burden of toil. Perhaps he's turning over in his 'mind' some Goldbergian device to perform the farm chores. However, no matter how imaginative his dreams may have been they could not possibly have equalled the real changes that have come to the farm since 1870.

Today, farm chores are being done to an ever increasing degree by conveyors, elevators, grinders, shellers, sawers, feeders, waterers, milking machines and barn machinery of all kinds powered by gas or electricity. Giant tractor outfits plow five times more land in an hour than the farmer of 1870 could plow all day long.

These changes on the farm were not brought about by daydreaming, but by the advance of science and technology. In the first half of this story we'll look at some new technology on the farm. In the last half we'll take a look at industry.

.. .. Photo: John A. Roebling's Sons Co.





Photo: Graham-Paige Motors Corp.

Science points forward. Here's a revolutionary farm machine, the Rototiller, embodying new scientific principles of soil tillage. It plows, discs, and harrows in one operation, crumbles the soil and distributes humus evenly to a depth of nine inches, thus enriching the earth and increasing yields. The farmer of 1870 couldn't have daydreamed this. It required science and technology to build.

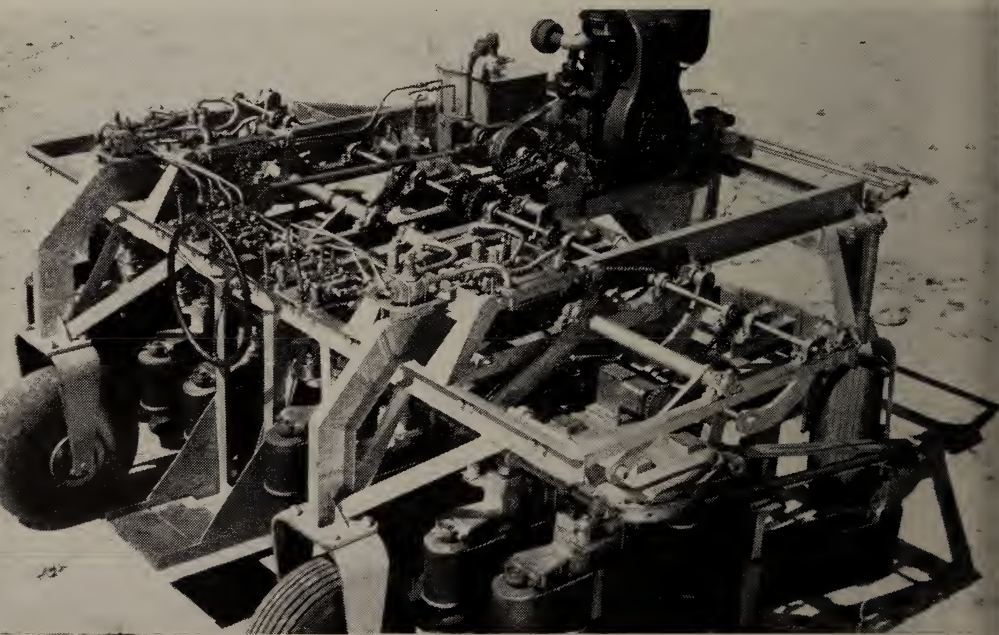


Photo: Silva Products Company

A celery harvesting machine. It has cut four rows of celery 1,200 feet long in $8\frac{1}{2}$ minutes. Cost of harvesting is 8 cents per packed crate as compared to 16 cents by hand labor. A crew of 12 with this machine does the work of 40 men. It cuts the tops and roots simultaneously to uniform lengths. Tops are separated by the unit and later dried to become a superior poultry and animal food.



Photo: Hagie's Hybrids Inc.

This is a corn detassling machine. It cuts the cost of detassling hybrid seed corn in half. Workers stand on the platforms and detassel 6 to 8 rows at a time while the unit moves forward at a half a mile an hour. Farmers are raising 20% more corn on 10% less acreage than 20 years ago, due largely to hybridization. Plant science and technology are not daydreams but operational concepts.



Photo by Rosskam; Standard Oil Co. N. J.

The report of the Secretary of Agriculture for 1946 states: 'Farmers are now doing a given amount of work with about one-fourth less man-hours than would have been required 25 years ago.' The farmer of 1870 in his wildest dreams would never imagine that the only way to produce more is to work less. Yet, it's a fact. This fact is the key to our common future. It holds forth Abundance.



A sugar cane windrowing machine. Cane stalks stand 10 feet or more high, are one to two inches thick, heavy and tough. Up to now stalks were cut and piled by hand. It was a hard, slow, disagreeable job. This machine cuts the stalks like grass and lays them in windrows. Cost of hand labor was about \$1.00 per ton. The windrower cuts this to 25c a ton. Not bad for a start.



Photo: Tucson Transfer and Storage Co.

The final step in cane harvesting is on the way, a machine that cuts, tops, strips, and chops the stalks into short lengths and loads them on trucks. Don't doubt it. Here is 42 tons of sugar, enough for 8,000,000 cups of coffee. The realities of agriculture today are far beyond the daydreams of the farmer of 1870. Tomorrow's agriculture will be unlike today's.

From The Camera's Eyevlew

Look To The Future

This 'mighty man' of 1872 is threading a wagon axle with that primitive threading tool the 'jamb plate.' This device fits over the end of the bar. It contains a threading die held in a vise-like arrangement, which is laboriously twisted back and forth until a thread is cut, or jammed, onto the metal. The working tolerance was perhaps a sixty-fourth of an inch.

No doubt, this metal worker, like the farmer, indulged in daydreaming. He, too, could fancy ways and means to ease his burden of labor. Perhaps he turned over in his 'mind' some gadget to operate the bellows on his forge so as to maintain an even heat without having to pump by hand. Maybe he's dreaming about some turning device to operate his 'jamb plate.' However, no matter how fruitful his imagination might have been he could not possibly have dreamed up the real changes that have come in his line since 1872.

Today, batteries of power driven, precision, threading machines operating to tolerances of ten-thousandths of an inch accomplish in seconds what it took the 'mighty man' of yesterday hours to do. Automatic and electronic heat controls have long since eliminated the bellows. The village blacksmith and the old-style farmer have gone into that limbo from which there is no return, except in one way.

It's only 80 years since their day in the Sun. Yet, in that short time an entirely new agricultural and industrial system has grown up. Science and technology have made a new world, far better than the old one. To be sure, it's more potential than actual as yet. But, the possibilities in technology have been demonstrated. The New America of Tomorrow is not a daydream. It's ours for the taking. All that is needed is the courage to scrap our concepts of the past.

Science holds forth a future that is correspondingly as far ahead of what we have today as that is ahead of 1870. The only way to lose that future is to continue doing what most Americans ARE doing now. That is, expressing a dog in the manger attitude toward social change. This is the surest way to reverse the direction of civilization and turn it back to the Dark Ages. It is an open invitation to social fascism. It is the only way there is to go back to the past. Is that what you want?

Photo: Greenfield Tap and Die Corp.





Photo: Edgar E. Brosius Co.

Here is a 2,000 lb. floor manipulator serving a 1,000 ton forging press. These units handle hot billets, slabs, ingots, and serve furnaces, mills, hammers, etc. It's power comes from the plant supply by a flexible cable and rotating collector mounted on a mast. Others have self-contained power units. A hydraulic mechanism steers the unit and operates the arm and tongs.



Photo: American Rolling Mill Co.

If the village smith had to pound out a sheet of steel by hand it would have taken him an awful long time to produce a piece big enough to cover a rat hole. This continuous hot strip mill turns out sheet steel by the hundreds of feet a minute. Note how hard the men are working, watching the mill work. There's the real producer, technology. Behind it is extraneous energy, not human labor.

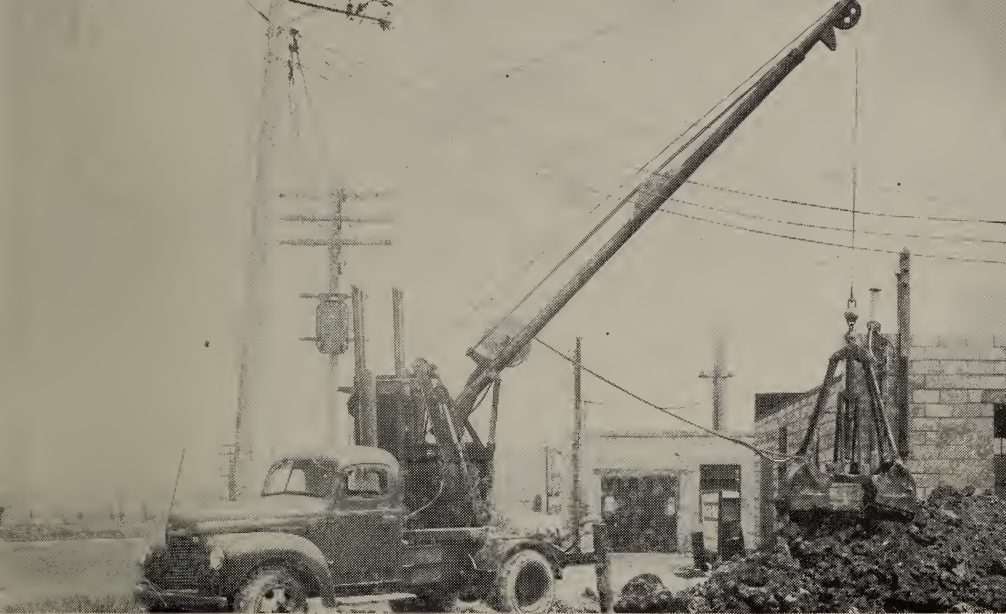


Photo: Milwaukee Hydraulics Corp.

Something new in cranes, no shafts, gears, drums, clutches, brakes, chains, or sprockets, just a simple, dependable, high pressure (5,000 lbs. per square inch) hydraulic system. Hydraulic boom telescopes, has 360 degrees turn; bucket operates hydraulically. System is 90% efficient; no skilled man needed; displaces 10 men; operates all day on 8 gallons of gas. Almost 3,000 have been built.



Photo: International Harvester Co.

A new, six cylinder, diesel, crawler tractor in the 130 drawbar horsepower range, with built-in gasoline starting system and electric starter. A beautiful and powerful job. America has the men, machines, technology and resources to solve all its problems. The same type of engineering that built this can operate a Continent to produce abundance, security and equal opportunity for all.



Photo: Revere Copper and Brass Inc.

Light metals. This girl easily lifts a 10' length of 5" magnesium alloy pipe. Magnesium alloys are easy to machine, are strong, and can be cast, rolled, forged, extruded, welded, etc., for use as structural materials, machine parts, etc. In percent of recoverable metal magnesium is the most abundant metal on earth. One pound will make four times more units than one pound of steel.



Stroboscopic Photo by Gjon Mili: American Brake Shoe Co.

'The Inexorable Drip.' Inexorable means unrelenting. Here we see dripping water as though it were standing still. It isn't. Neither is technology. By studying technology we see it is inexorable. It demands that we scrap the old Price Sysem and install scienific social controls. The only alternative is fascism. Abundance or Chaos, take your pick. Don't be a dog in the social manger.

Flashes of American History

VIII—An American Introduces the Sewing Machine

By Ben H. Williams, 8141-15

In the spinning and weaving of textile fabrics giant strides in mechanization had been made long before anything analogous had taken place in the machine fashioning of these fabrics into clothing. In fact, it was largely in spinning and weaving machines that the so-called Industrial revolution began in the British textile industry about the middle of the 18th Century.

For nearly a hundred years thereafter the making of clothing was still a household or small factory hand-industry. The 'nine-lived' tailor, 'round-shouldered and bow-legged,' still sat cross-legged on his bench or his legless chair, plying his needle and shears day after day. Well along toward the middle of the nineteenth century, Thomas Hood could still have the household clothing maker singing 'The Song of the Shirt':

With fingers weary and worn,
With eyelids heavy and red,
A woman sat in unwomanly rags,
Plying her needle and thread.
Stitch! Stitch! Stitch!
In poverty, hunger and dirt,
And still in a voice of dolorous pitch,
She sang "The Song of the Shirt".

Holding Back The Machine

And yet for all that, the beginnings of invention in clothing machinery date back almost as far as those in spinning and weaving devices. Reverend William Lee, late in the 16th century, invented a knitting machine which, however, was suppressed by Queen Elizabeth of England who refused Lee a patent on the ground that 'many thousands of her liege subjects who made stockings and hose would be forced out of work.' Thomas Saint

patented a sewing machine in England in 1790, but it was classed as a mechanical toy and never came into public use.

Forty years later, in 1830, Bartholomey Thimmonier was granted a patent for a sewing machine in Paris. In 1841, Thimmonier's machine made uniforms for the French Government by the thousands. Then the tailors got together, formed mobs, invaded the factory where the machines were in operation, threw them into the street, and burned them up. Again in 1848, this inventor's machines were burned by mobs of clothing workers. Thimmonier finally gave up and died in bitter poverty. On this side of the Atlantic, the sewing machine was introduced first by Walter Hunt of New York, about the year 1832. Hunt's great achievements were the lock-stitch and the eye-pointed needle. Hunt was too easy-going and failed to patent his invention. He made no attempt to fight the opposition to its introduction by the tailors and other clothing workers.

The Winner Shows Up

The achievement of actually bringing the sewing machine into the field and keeping it there was reserved for an American pioneer of a sturdier type. True enough, he arrived on the scene at a time when social necessity was urgent and so aided him greatly in overcoming opposition. The American inventor was Elias Howe, Jr., the son of a Massachusetts farmer who, as one biographer intimates, had implanted in his son 'a heart of steel.'

Howe began work on a sewing machine about the year 1840 and after

unbelievable mechanical and financial difficulties, patented a successful machine in 1845. But, according to John Walker Harrington, 'when Howe tried to get the big clothing establishments to use the machine he found out exactly where he stood; the howl of the tailors echoed to the Bunker Hill Monument.'

Howe then borrowed money for a trip to England where he encountered an enterprising chiseler named William Thomas, who bought one of Howe's machines for \$1,250 and with it all the patent rights of the new sewing machine for Great Britain. Howe was given a \$15 a week job in Thomas' establishment and continued his experiments for eight months, when he was kicked out, imprisoned for debt, and finally got back to New York, learning on his arrival that his wife was sick in Boston. He arrived at her bedside only a few days before her death.

The Machine Comes Into Its Own

Social necessity meantime had forced the sewing machine into greater usage, and Howe spent the next few years fighting the infringements on his patents and collecting royalties on his machines. Up to 1860, Howe had received \$1,185,000 on his machine and so great was the disparity between that sum and what other promoters had gotten out of his invention that Howe thought he should have received at least \$150,000,000.

Elias Howe was only an inventor, demonstrator and indifferent salesman of his machines. He never had a factory of his own. He lacked the promotional genius of men like Isaac Merrit Singer and others who made the big fortunes out of the sewing machine. Nor was Howe's machine perfect. Many improvements were made by Singer and others who followed, even as Howe

himself had borrowed consciously or unconsciously from his predecessors.

The sewing machine, like McCormick's grain reaper, played a significant part in the Civil War, by supplying the Union Army quickly with uniforms, knapsacks, etc. Again, during the World War, as Harrington tells us, 'many improvements in existing machines were made at that time. New types of buttonholing, seaming, seam-closing, fronting, pressing and labelling came into being as if born of the needs of the hour.'

Following the successful introduction of the sewing machine by Elias Howe, the making of clothing was swiftly brought to a level of speed and efficiency equal to that of spinning and weaving. Modern high-energy civilization would be seriously handicapped without the sewing machine.

The next 'Flash' will treat of a revolutionary development in communication under the title 'An American Professor Brings the World to Our Doorstep.'

References:

Waldemar Kaempffert, 'A Popular History of American Invention,' Volume II; 'Making Clothes by Machine,' by John Walker Harrington; Mary R. Parkman, 'Conquests of Invention,' pages 87 to 103.

Buried Alive

'One of the principal threats to interest rates is the large number of undeveloped patents on corporation shelves—patents that corporations are not developing now because of their potential threat to present invested capital.'—Harland H. Allen, Chicago economist in a recent talk before the Mortgage Bankers Association of America. (As reported in the *New York Times*, March 2, 1947.)

More Barriers For Progress

High, Wide, and Handsome

By Roy M. Elliott, R.D. 11732

'Man made himself out of an ape, partly by becoming an engineer. The danger is now that the process will be reversed and the engineer will make apes of all of us. We apes shall then destroy ourselves and hoist the engineer with his own petard. We must examine the paradox of a living being which creates inanimate things more powerful and more nearly perfect than itself, with potentialities either for the salvation or the destruction of the inventor.'—Ernest Albert Hooton, Professor of Anthropology, Harvard University, in his book *TWILIGHT OF MAN*.

Sap or Sapiensis?

Mankind is a unique animal. No-where does he find his 'equal' in doing things—mentally and physically. Yet, of all the beasts that roam the field, man alone continues, persistently and consistently, to do things that almost any other animal would have discontinued long ago, if it knew that self-destruction lies ahead. Old homo sapiens, dear old muddle-headed man, does nothing of the sort until forced (physically) to do so.

How do we know this is so? Look around and see for yourself. For example, why is it necessary to install traffic regulations at the busy intersections of our city streets? Something concerning the physical General Welfare, probably. The solution of this purely physical problem was not left to a few philosophers. Why? Because it is not a philosophic problem. We may arrive at an extremely accurate conclusion that if two autos are started toward each other and neither contrives to stop, the time and motion involved will cause an inevitable collision. If head-on collisions occur with sufficient tragic regularity to force a correction, the establishing of one-way drives gets results far in excess of any amount of moralizing via pulpit, radio, press, boyscout drives for 'safe driving' campaigns, or other like

methods. A white line or two down the center of the highway furnishes a guide for passing traffic, but a concrete barrier 4 feet high and 2 feet thick down the center would effectively prevent almost all head-on collisions. From these elementary observations, we see clearly that we need but recognize the physical factors involved and be guided thereby to adequately solve the problem.

Railroad trains rarely stop at highway crossings except by 'accident.' One positive way of eliminating grade crossing disasters would be to permit our technologists and engineers to design rail and highway roads with the accidents designed out. Simple? Just a technical approach to a technical problem. Results, adequate.

In the industrial world, it has become necessary to adopt Safety First methods for several reasons. The primary one, perhaps, is that accidents cost time and money. A physical injury to man or machine upsets operating schedules. After the safety engineer has despaired of reaching the lowest accident rate possible, by a series of 'preaching' lessons, some form of physical restraint in the form of belt guards, railings, covers, goggles, techniques, and the like, does the job. Here again the use of physical barriers gets positive results, simply because it is a physical problem which is involved.

Nowhere in America's Price System today is there to be found a condition of health, wealth, nutrition, personal achievement, living conditions for the populace but what could be improved were it not for the lack of the correct kind of barriers. Mankind, that unique animal, is in sore need of establishing some more physical barriers to prevent an increasing rate of social casualties from carrying the entire population back to a primitive and chaotic condition. America today is at the crossroads in the physical history of her national existence. Either we recognize that something adequate must be done and proceed to do it, or we (most probably) will suffer the loss of three-fourths or more of our total population in the resulting disintegration of our national entity. The law of chemistry works in America, the same as anywhere else. This is just another way of saying that starvation causes death wherever starvation occurs.

To avoid chaos in America now becomes our common problem. Or are we different than the other animals in our instincts? Are we deliberately trying to 'rub' ourselves out? Let us proceed upon the assumption that we are by instinct not different from other animals. Let us assume that we have a higher degree of intelligence. So, let us examine the problem for a clue as to what kind it is. Knowing what kind it is will assist in the correct approach for adequate solution.

The Equality of Necessity

In spite of all the philosophic nonsense about man being 'equal,' it remains a matter of fact that man is not equal except in a very limited degree. Mentally, no, physically, no. If not in these, where is he equal? There is one characteristic in which mankind is positively equal. The biological requirements, such as eating, sleeping,

mating, clothing, is common to all. While the degree of requirement differs in lands and climes, all men must of physical necessity engage in eating or starve. All require some degree of shelter from low temperatures. Our concentrated populations require some clothing. Need we go into the matter of mating, in order to continue the existence of mankind? Here in these various biological necessities we certainly have a common basis, an equality among men, that admits little, if any, variation.

Proceeding a step further, if food, shelter and clothing are common to all, this constitutes a common problem for each and every one. We need not investigate exhaustively to determine that mankind's physical environment here on earth has been a long history of scarcity for the majority, and abundance for the few. Scarcity has been the driving urge to acquire what there was to be had. If there were a few head-cracking episodes in the process, we may be sure that the environment of scarcity caused such behaviour patterns. Man 'loves' his fellow man up to the point that he will eat his brother (physically) if he gets hungry enough. Biologic requirements supersede abstract concepts.

Having determined that our problem is a physical problem, we must treat it as any other technical problem. We must use the scientific approach, the functional method. To understand fully the accuracy of this conclusion, you are invited to a consideration and investigation of the work already done by Technocracy Inc. The findings of Technocracy are just like any other collection of facts. They cannot argue, compromise, retreat. They simply exist. What we, as Americans, do about it is of extreme importance because we have before us the evidence to prove that self-destruction is immi-

nent if we persist in a continuation of the status quo. The position of Technocracy in this matter is similar to that of the weather man. The weatherman doesn't make the weather; he simply predicts it upon the basis of observations made and information received. Technocracy is not making the social cyclone that is drawing steadily nearer to our social economy. Technocracy is merely predicting it on the basis of observations and information available to any one interested enough to investigate and observe.

Next Most Probable

Technocracy's design is the result of observations made and information gathered from many sources. This design is dictated by the facts involved, not guess-work or opinions. This design is a collection of physical facts, outlining the physical barriers that must be set up to prevent Americans in America from hitting the 'ditch' in our social world.

Technocracy challenges anyone anywhere to present factual evidence to prove Technocracy in error in its analysis of America's economic dilemma. To date Technocracy's design has never been factually assailed. Technocracy's design is but the functional approach to a technical problem. This approach will yield results the same as any other technical problem yields to a technical approach. Just as we abandoned our former concepts about what constituted 'fast' mail in the days of the horsedrawn stage coach, so we will, of necessity, have to abandon our present concept of work, debt, leisure, money, taxes, and standards of living for a new concept of abundance. The need to create a system of distribution for the adequate disposal of this abundance to the population of the North

American Continent is now being demanded by the march of physical events.

Right here, someone says: 'You can't do that; the rich man won't permit it.' We ask: 'What is the rich man going to do about preventing ANYTHING when the Price System in America folds up and collapses, and his money becomes worthless?' Wishful thinking is for the propagandist and the uninformed Price System 'free enterpriser.' The fact is that America's Price System is doomed to an early end, simply because it is unable to make the required changes and still remain a Price System. Only a system of distribution expressly designed for the purpose can distribute an abundance.

The march of events is demanding that we North American's recognize the futility of attempting to bolster an American Price System and its present concepts and institutions. A clean break with things as they are is required. Here is where mankind reveals himself as unique. He can, voluntarily and deliberately, lay aside the old, outmoded concepts and proceed to something more adequate. No other animal but man can do this neat trick of setting up such a system of physical barriers for avoiding self-destruction.

Technocracy's design is the vehicle standing ready to convey man into a New America of Abundance. All we need to do is to get in this vehicle and start for our destination. Whether we do this voluntarily now, or by physical force later, is not yet known. This really does point up the question: 'Has mankind in America the ability to use his intelligence, and if he HAS, what's holding YOU back?'

Join Technocracy now!

Air at zero temperature contains 73 BTU'S of heat in every pound.

Dictionary Of The Price System

A Word A Day Keeps the Fog Away

By Sam Pavlovic, R.D. 9344 and James Winston, MAL

VESTED INTEREST—The legitimate right to something for nothing.

PHILOSOPHY—Mental jaywalking that never arrives anywhere.

LIBERAL—A person with both feet planted firmly in the air.

POLITICAL ARENA—That's where the bull is.

LAISSEZ FAIRE—You work your side of the street and I'll work mine.

REFORM—Covering up an old stink with a new one.

INCOME—The amount of money you get that you have to spend more than to get half enough to live on.

INFLATION—Instead of not having the money you haven't, you'd have twice as much, but it would be worth only half of what you haven't got.

POLITICAL ECONOMY — Getting the most votes for the least expenditure of money.

CIVILIZATION — Something that has reached all people except those that have no resources worth stealing.

POLITICIAN — A guy who never breaks a promise without giving a bigger one in its place.

MONEY—The stuff that talks but never gives itself away.

EROSION ENIGMA — The American rivers that are too thick to swim in and too thin to plow.

AVERAGE AMERICAN—A chiseler temporarily embarrassed for funds. This temporary embarrassment usually lasts a lifetime.

HONEST POLITICIAN—One who when bought will stay bought.

DIME—A dollar with all the taxes taken out.

INTERNATIONAL DIPLOMACY —The art of letting some other country have your own way.

CORPORATION LAWYER — Watchdog for a vested interest.

ECONOMICS — Modern mythology.

MONEY—Medium of interference to the General Welfare.

BUSINESS BAROMETER — Statistical method for measuring the 'take.' When it falls too low, free enterprisers take to jumping out of windows.

AUTOCRACY—A system in which the top dog robs the people and murders those who protest.

DEMOCRACY—A system in which 'free enterprise' swindles the people and labels those who protest as communists and crackpots.

TECHNOCRACY—A system without top dogs, robbers, swindlers, or free enterprisers.

PART TIME SCIENTIST—A person who uses the scientific method when he is surrounded by scientific instruments but who reverts to philosophy and politics when he is surrounded by social problems.

Primer of Technocracy

Full Production Demands Full Distribution

By Henry Elsner, Jr. R.D. 8342

An examination of the contemporary economic scene will point out that the basic problem underlying the confusion here in North America is not full production but full distribution. It has been demonstrated how the present economic system of monetary exchange is unable to distribute the products of modern technological production. What alternatives have we, the American people, to choose from?

Today there is a remarkable tendency among politicians and other sophists of the social 'sciences' to orate learnedly about two awe-inspiring somethings called 'capitalism' and 'communism.' It is not our purpose here to go into the intricacies of exact definition, so let it suffice to say that capitalism is the system of exchange now existing on this Continent. Communism is supposed to be capitalism's opposite; and it is presented as the only alternative to capitalism. The intellectual radicals, as well as the out-and-out communists tell us that the time has arrived, as predicted by Karl Marx, when the capitalist system would destroy itself. Therefore, the workers of the world must unite to overthrow this decadent bourgeois regime, and establish a dictatorship of the proletariat.

Let us examine the actual operating characteristics of communism, if we can dig them out from beneath the morass of emotional nonsense. The similarities between the so-called 'revolutionary ideas' of the Marxists and capitalism are indeed astonishing to those who have been conditioned in the 'either-or' method of thinking.

First of all, communism retains the

use of a medium of exchange, thus necessarily keeping all the allied, hoary concepts of trade, value, property, etc. Second, communism retains the use of a political system for administering its affairs. It may be noted here that many communists, when approached regarding the dictatorial party oligarchy rule in Russia, say: 'Oh, it won't be that way here.' But, they are very vague about what it will be like here if their system comes into effect. America's high energy civilization demands a plan of social organization as exact as our most precise technological devices. Yet, the communists propose to run this Continent on exactly the same basis as that of today, with some modifications as determined by a certain German philosopher who lived in the 19th Century. In conclusion, we may say that the one real difference between the systems of communism and capitalism is the fact that different groups of people control the economic rackets. Communism, then, offers no solution to America's problems.

Network of Compulsions

And what about fascism? Of course, Americans would never accept fascism under its own name (so we are told) but it is doubtful if fascism would be known as such if it were established. Huey Long said that when, and if, fascism comes to America it will be called Americanism. Remember 'National Socialism?'

What is fascism anyway? Technocracy has defined it as: 'The consolidation of all the minor rackets into one major monopoly for the preservation of the status quo.' This means that fascism is an effort to preserve

a disintegrating economic system by force. The social mechanism used by fascism is the corporate state wherein total authority is vested in the triple oligarchy of private enterprise, ecclesiasticism and the political government.

However, it is impossible to hold any society in a static state for any length of time after technology has entered the picture. The mandate of technology to the Price System is 'expand or die.' That's what is the matter with the Price System now. It is trying to expand to keep from dying. However, its efforts are futile. Like the bullfrog in Aesop's fable who tried to blow himself up to be as big as an elephant it will burst in the process. If laissez faire capitalism can not expand beyond its natural peak of growth how can fascism expand?

The only answer is violence and war. A fascist regime must resort to these devices. If social violence occurs in North America it could easily obliterate the delicately-balanced technology upon which we all depend. In that event many millions of Americans would no longer need to think about social problems. They would be dead. Fascism certainly is no solution to the problem of distribution.

Technocracy Is The Answer

All of the economic systems of today are incapable of handling the problem of distribution, for they are all basically the same. Their operating characteristics are derived from the pre-technological era of natural scarcity. All of these systems are correctly defined as Price Systems. 'A Price System is any social system whatsoever that effects its distribution of goods and services by a system of trade or commerce based on commodity evaluation effected by means of debt tokens, or money, irrespective of whether the ownership involved is individual or collective.'

Is there, then, no solution to our problems? Happily, this is not the case. The same science and technology which has perfected full production can effect full distribution. This is a generalized statement, so we will now be more specific.

In 1919 a research organization composed of engineers and scientists was formed with the purpose of studying the effects of technology upon our social structure. This organization was called the Technical Alliance of North America. In 1930 it became known as Technocracy and in 1933 was incorporated under that name with Howard Scott as Director-in-Chief. The scientists and engineers of Technocracy approached the social problem with an entirely different point of view from that of the politicians and philosophers. These men found that the North American Continent was able to produce plenty for all; that our Price System was incapable of distributing this production; and that a new method of distribution must be designed.

The concepts of value and exchange are relics of an era of scarcity. To have a value, or high price, an item must be scarce. Abundance abolishes value. Examples of this may be found every day in the world around us. When items are scarce, one thing is exchanged for another on a basis of their value. An abundance demands that everything be distributed as widely as possible.

Distribution of an abundance requires precise designing. Technically, it is possible to produce enough so that we could just give away products to everyone. But, it is self evident that such an anarchic method would result in nothing short of chaos. Therefore a system of simple, accurate and rapid accounting must be devised.

The most exact and stable method

of measurement of goods is the amount of energy contained in the item, or required to produce it. Energy measurements do not fluctuate as prices do. Moreover, energy is the one common denominator among all living and non-living things.

This Way To The New America

In the distribution system designed by Technocracy, the total amount of energy degraded in a given period of time would be calculated. The energy cost of the necessary free services are then deducted, such as, police and fire protection, local transportation, education, health, etc. The remainder of available energy is then allotted equally among the population.

Some may object to the equal distribution of energy units. However, differentiation of incomes would only result in needless confusion and tend to unbalance the smooth functioning of the system. Besides, there is no point in giving some people a lower income when there is more than enough for all. The concept of differentiation of incomes is a hangover from the era of natural scarcity when a high standard of living for the few and a low standard of living for the many was the *modus operandi*.

Technology demands a high standard of living for all if it is to function properly. In a Technate incomes would be equal but not identical. This means that it would not be a commissary system wherein goods and services would be doled out on an equal basis. Each person could spend his energy units in his own way.

Units of purchasing power would be represented by Energy Certificates, issued to the individual citizen from time to time. These would be worth nothing in themselves, but would be merely parts of an accounting system.

They would be non-negotiable, non-interest bearing, non-transferable and have a time limit for use. They could not be stolen, given away, or gambled with. No power on earth could take them away from a citizen except, possibly, he himself by violating the laws of the land.

When one wanted to 'purchase' something he would surrender the required amount in certificates. The certificates would then be put through a machine which would mark thereon, in code, the energy cost of the item and other pertinent data. Once a day the used certificates would be scanned by a photoelectric machine and the collective data sent to a central accounting office. In this manner a constant check could be kept on what was being distributed and, therefore, how much need be produced to take its place.

This is the only method yet devised for distributing an abundance. It is peculiarly suited for application, first on the North American Continent, and is not intended as a cure-all for other nations of the world.

It is in the hands of the North American people to see that a technological system of distribution is installed now. Day by day the plight of the Price System becomes more acute. The communist and fascist may scream out their emotional panaceas, but their ideologies can not feed, clothe, and house the people. Technology can do this handsomely and provide all the other items of a high civilization also including equal opportunity to all citizens and complete security from birth to death.

Technocracy calls upon every North American to investigate its program and then to help educate our people for the era of abundance that lies before us.

Technology Marches On!

Audacious, Always Audacious

By Research Diviison, 8741-1

Metallurgy

A method has been developed to increase pig iron production up to 20 percent, with no increase in man-hours of labor, a reduction of the amount of coke necessary, by about 10 percent, and very little addition to existing facilities. Believe it or not, it's done with hot air; and that's no hot air.

Pig iron is made in a blast furnace. Into the top is dumped iron ore, limestone, and coke for fuel. To assist and intensify combustion, a blast of hot air is injected at the bottom. The new method just uses more air than formerly. Normally, blast furnace air pressures are maintained at about 20 lb. per square inch, and total air volume runs about 75,000 cubic feet a minute. The new technique uses pressures up to 30 lbs. per square inch and air volume up to 110,000 cubic feet a minute.

The Republic Steel Corporation has been experimenting with the new method. Under standard conditions, one of their furnaces produced 1,169 tons of pig iron a day with a coke consumption of 1,746 pounds per ton of iron produced. With the same blast furnace, but using the new method, production was increased to 1,435 tons a day with a drop in coke consumption per ton of iron to 1,494 pounds. The quality of iron produced by the new method is said to be higher and more uniform.

The *Wall Street Journal*, May 22, 1947, reports that a major obstacle to the use of heavy blasts of air has been that the high velocity drove fine iron ore, coke and limestone out of

the top of the furnace. Republic has overcome this by what are called 'comparatively minor' structural changes in the furnace top. *Business Week*, May 24, 1947, reports that the new method opens the way to the use of low grade iron ore. At present these ores cannot be used without being agglomerated, i. e., compacted into chunks.

Rollerless Grain Mill

A revolutionary new process for making flour without grinding or sifting has been developed in the laboratory stage by the Midwest Research Institute of Kansas City. A pilot plant is being built at the Institute to permit commercial tests. *Business Week*, May 10, 1947, reports that:

Wheat (or other grain) is placed in a metal cylinder. An air compressor puts the grain under pressure, and compressed air fills the tiny pockets in the grain. A valve is turned and the wheat shoots out through a small nozzle. This releases the pressure of the air within the grain instantaneously, and the kernels are blasted apart. (This process is called "explosive dissociation.")

The Christian Science Monitor, June 17, 1947, reports that:

According to Harld Vagtborg, President of the Institute, the significance of the experiments lies in the fact that preferential separation of the component parts of the grain berry can be obtained. Wheat flour can be made free of the germ, something exceedingly difficult under conventional milling methods. Too much germ in flour produces a tendency to spoil.

In order to supplant present methods,

the process has to be improved so that more of the bran is removed. Milling men say that people demand a white flour bread. Whole wheat bread accounts for only two percent of the bread consumed today. In any event, the process will produce any type of flour desired by controlling pressures and exposure times under pressure.

Photographic Printing

A revolutionary newspaper printing method designed to eliminate the use of typesetting machines, matrices and stereotype plates has been in use for several months in publishing the Leesburg, Florida, *Commercial Ledger*, a 12-page weekly paper.

The *Chicago Sun*, July 16, 1947, reports that:

Entire pages are printed directly from a single sheet of engraved magnesium which weighs less than a pound compared with 46 pounds for a conventional stereo plate. Composition of body type is done by proportional spacing typewriters, and machines have been developed to permit head-setting by the same method.

Full details of the process are not available. However, the research was conducted in the Ocala, Florida, plant of the William J. Higgins Co. Installations of the process will be undertaken by this company 'as soon as production is completed on necessary composition and engraving machinery.' John H. Perry, Jr., Chairman of the company, states:

The process completely changes the composing room as it exists today. The copy goes directly from the typewriters to the makeup boards and from there into the engraving room. The copy need not be returned to the editor for proofreading, as composition errors are, by the photographic nature of the process, completely eliminated. It permits use of an un-

limited number of pictures at no additional cost, and the quality of these pictures is the finest obtainable because the original engraving is the printing plate.

Conventional presses, either flatbed or rotary, are used. The lightweight plates make possible greater press speeds, with less wear and tear on equipment.

Peanut Mechanization

For the last few years, the South has grown more than 2,000,000,000 lbs. of peanuts on more than 3,000,000 acres of land. Peanut farming has been a back-breaking, laborious type of farming, characterized by hand labor. Threshing machines were used, but shelling was largely done by hand. At harvest time a plow-like device loosened the peanut vines from the soil. They were then lifted out of the ground, shaken, piled and stacked by hand. After drying, they were run through a thresher.

Now, however, several machines have been developed. There is a digger-shaker that lifts, shakes and winds rows two rows at a time. The digger-shaker cuts harvest time from 32 man-hours per acre to less than four. A mechanical sheller is now in use that shells as many peanuts in one hour as a man can shell in 300 hours. Finally, an experimental peanut combine is being tested that will perform all the harvest operations at one blow. The blow will be to man-hours.

Peanuts are of growing importance as a crop. More peanuts means more vegetable oil, more protein food, and more livestock. Tests show peanut meal to be equal to either cottonseed meal or soybean meal for dairy and beef cattle. Peanut straw is almost equal to the best clover hay. Peanut hulls are about one-third as good as coal for fuel, pound for pound. The hulls can also be converted into fur-

fural, which can be processed into nylon.

Shot Peening

'By shot-peening connecting rods and rocker arms on marine engines instead of polishing them, Packard saved 42 man-hours per engine and increased fatigue life.' — *American Machinist* (as reported by McGraw-Hill Digest, June 1947).

Steam Engine Trucks

The J. & M. Manufacturing Company of Mishawaka, Ind., has installed a specially designed steam engine in a standard truck after removing the gasoline engine. The steam engine delivers 100 horsepower. It is a four cylinder compound engine geared to the rear axle. For fuel it uses oil costing about \$2.25 for a 55 gallon barrel. The truck gets about 10 miles to a gallon of fuel, making the cost less than 5 cents, or about 50 cents per hundred miles.

The efficiency of the engine is credited to a new type jet burner. It heats the boiler water to 600° F. in 20 seconds. The fuel-air mixture in the burner is ignited by a sparkplug controlled by a switch. W. C. Minor,

president of the company, says the engine has only half as many parts as a gasoline engine. Oil for lubrication is mixed with the steam. The exhausted steam is condensed and returned to the system while the oil is separated from it. The boiler operates at a constant temperature of 750° F. and 1500 lbs. pressure.

Delivery of steam to the engine is controlled by a foot throttle. There is no conventional transmission or clutch. The safety valve is set at 15 percent of the boiler's tested strength. Water pump, water feed and burner are controlled by thermostats. Claims of high efficiency are being made for this engine. (*Chicago Tribune*, July 27, 1947)

The Housewife's Friend

'The first full dinner cooked by radar was served at Hotel Statler (Boston) last night and took only three minutes 45 seconds to prepare. The menu and individual cooking times were baked lobster, two minutes, 15 seconds; delmonico potatoes, 20 seconds; grilled ham steak, 60 seconds; corn on the cob, 50 seconds; apple pie, 10 seconds.' (*Chicago Daily News*, May 21, 1947)

Plants Are Better Than Bonds

'Based on reported actual outlays by a representative sample of business firms, expenditures for new plant and equipment in 1946 amounted to \$12.1 billion (exclusive of agriculture). This total was almost double the \$6.6 billion investment in 1945 Present indications from reports of business firms on their anticipated expenditures are that the annual rate of \$14 billions of outlays for new plants and equipment will be maintained in the first half of 1947.' (Sur-

vey of Current Business, April, 1947.)

'The volume of purchases of U. S. savings bonds was lower in 1946 than in any year since 1941 Redemptions of E bonds, which yield a higher return and are far more widely held than the F and G series, outstripped purchases in 1946, resulting in a net decline of 500 million dollars in the amount outstanding.' (*Survey of Current Business*, April, 1947.)

Technocracy And Your Trade

Physically Handicapped Workerfs

(VETERANS, ATTENTION!)

By Organization Division, 8741-1

Outside The Economic Circle

The Industrial Hazards Division of the Bureau of Labor Statistics estimates that there are about 16,000,000 persons with serious physical impairments in the U. S. Of these, the Division thinks that about 5,000,000 are employable, under the correct conditions. 'This excludes the old and the young, as well as persons who would not normally be available for the labor market.' However, the Division adds that it does not know exactly how many are actually employed.

In view of the above, it can be seen that the job problem is extraordinarily serious, for at least several million Americans. The mere fact that so many citizens are compelled to compete under a physical handicap, or live off of charity, is one of the more conspicuous stinks in the house of 'good old free enterprise.' Nevertheless, this is the type of social system under which we live. Consequently, let's examine the position of the physically handicapped worker. All data and quotations used, except those around the term 'free enterprise' are taken from the *Monthly Labor Review* for December, 1946, unless otherwise indicated.

On August 31, 1946, the U.S.E.S. had a backlog of 215,331 applications for jobs from disabled veterans. At that time it was placing these vets at the rate of 11,000 a month. This rate of placement would finish off the backlog in 20 months. Therefore, by March, 1948, all disabled vets will have a job, providing the rate of placement does not decline and they all re-

tain their jobs. Since veterans have priority in job opportunities, the millions of non-veteran, impaired workers face a bleak prospect indeed.

In keeping with its 7,000 year old tradition of social irresponsibility, the Price System has no intention whatever of lightening the prospects of handicapped workers, if it can help it. Private enterprise is prejudiced against employing such workers. Among the many excuses advanced for this attitude are the following, as stated by the Bulletin:

The impaired are less efficient than the able-bodied; it is more difficult to transfer them from one job to another; they are more likely to lose time because of illness; they are more difficult to place satisfactorily; they are more likely to be hurt; their employment involves hazards to their fellow employees; they increase the cost of workmen's compensation.

With the exception of the last factor, for which correct data are not yet at hand, all these excuses for not employing impaired workers are as phony as all other 'lines' put out by 'good old free enterprise.'

Call The Next Witness

'At the request of the Veterans Administration, the Bureau of Labor Statistics undertook to appraise the work performances of about 10,000 seriously impaired workers.' These had found jobs during the war and were still hanging on to them. The Bulletin states:

A committee of industrial physicians assisted in defining 10 specific

types of physical impairments which were regarded to be so severe that they would raise serious difficulties for those seeking employment. Included were orthopedic impairments, such as the loss of an arm, leg, hand, or foot; partial or complete blindness; severe deformity of the spine; arrested tuberculosis; compensated cardiacs; peptic ulcers; and epilepsy.

The 10,000 impaired workers to be studied represented a cross-section of the above disabilities. The Bulletin continues:

To rule out as many variables as possible, each impaired worker selected from the medical records as falling within one of the defined groups of impairments was matched against 2, sometimes 3, unimpaired workers of about the same age, sex, and work experience, on the same shift, and performing the same job in the same department of the plant. Thus, the only basic difference between the impaired worker and his unimpaired co-workers against whom he was matched would be the factor of impairment.

An advisory committee of industrial physicians, union representatives and placement counselors assisted in the methodology of the survey and went over the program carefully. All findings were 'based on objective measurements, which in turn were to be based on data taken from production records, attendance records, injury records, and turn-over records.'

Forty-seven plants, engaged in a wide variety of industrial activities, were chosen for the survey. These plants were sympathetic to the employment of impaired workers. Nevertheless, only a few of them used comprehensive job analyses and requirements. Placement practices varied widely. 'If the impaired worker made out satisfactorily, that was fine; if not, he was shifted to another job or was

discharged. Matching the man to the job is far from general in industry.' Were this the case, the results of this survey might well be more astounding than they are so far.

Let's Look at the Record

'By August 1 (1946), the performances of about 4,000 impaired workers and 6,500 unimpaired workers had been surveyed. *As a group, the impaired were 2 percent more productive than the unimpaired.*' (Italics ours.) This does not mean that every impaired worker is superior.

An analysis of the detailed data showed that 34 percent of the impaired were better than the unimpaired in the corresponding control group, 36 percent were as good, and 29 percent were poorer workers. Thus, 70 percent were as good or better.

The other excuses of 'free enterprise' for not employing handicapped workers were likewise demolished by this survey. The two that say it is more difficult to transfer impaired workers 'from one job to another' and that they are 'more difficult to place satisfactorily,' have no validity whatsoever, in view of the anarchistic placement practices of industry as a whole. A scientific placement policy would place every worker (unimpaired as well as impaired) upon the basis of capacity and ability. To justify employment today, the impaired worker must demonstrate that he can hold his own with 'normal' workers without benefit of a scientific placement policy. This places him under a double handicap. It's a wonder any of them make the grade.

The excuse that impaired workers are 'more likely to lose time because of illness' is also phony. Absentee rates of the two groups surveyed were identical. 'Each lost 3.8 percent of sched-

uled working hours.' There was no difference among the types of absenteeism. The reasons for being absent 'did not vary between the two groups by more than two-tenths of 1 percent . . . Neither cardiac nor ex-tubercular workers had lost any more time from work than had their fellow workers with whom they were matched.'

Page Mr. Ripley

The two final excuses for not hiring impaired workers, that 'they are more likely to be hurt,' and 'their employment involves hazards to their fellow employees,' are even more phony than the preceding. Believe it or not, the Bulletin states:

But the amazing finding was that, in disabling injuries per million employee-hours, the impaired averaged only 8.3 as against 11.8 for the unimpaired.

In other words, the accident record of the so-called 'normal group,' doing exactly the same work, and exposed to the identical work hazards, *was about 40 percent worse.* (Italics ours)

In none of the 47 plants studied did the Bureau find a single instance in which the existing impairment was a causal factor in an injury to the impaired worker . . . Nor was a single instance found in which an impairment was a causal factor in the work injury of an unimpaired worker.

In regard to the relative costs of workmen's compensation between the two groups, the data had not yet been tabulated up to this writing. However, it does reveal 'that there was very little difference in average time lost per injury between the two groups.'

Of course, this survey is confined to 10,000 workers; while there are about 60,000,000 workers in the labor force. Nevertheless the samples were chosen carefully, and the study

carried out by trained statisticians. It is certain that they had no economic interest in producing conclusions at variance with the pet prejudices of private enterprise. The reverse would be better job-politics. Evidently some bureaucrats don't play job politics very well.

In spite of the fact that impaired workers have demonstrated their ability, when correctly placed, job opportunities for them have been declining ever since V. J. Day. In 1945 almost 300,000 handicapped persons were placed on jobs. In 1946 only 213,000 were placed. The number of handicapped veterans placed increased from 134,842 in 1945 to 138,512 in 1946. However, the number of handicapped non-veterans placed decreased from 164,780 in 1945 to 75,302 in 1946. These figures are from the June 1947 Bulletin.

No 'Out' Under The Price System

The Labor Information Bulletin for August 1947 reveals that there were still 160,000 disabled veterans registered in State Employment Offices at that time. In addition, there were about 340,000 disabled non-veterans registered. As a remedy for the status of disabled workers, Congress resorted to another of its typical acts of political futility. It designated the week of October 5-11 as 'National Employ the Physically Handicapped Week' or NEPH Week.

Numerous Federal, State and Municipal agencies, labor unions, vocational rehabilitation agencies, employment services, etc., cooperated in the campaign. Literature was distributed, appealing posters tacked up on walls. The radio and our great free press (joke, son) played a prominent role. Governors of almost all the States, and hundreds of Mayors issued grave statements. Even President Truman gave

forth with a proclamation direct from the White House.

What did all this amount to? It proved one thing only. There are a lot of sincere people in the good old USA who are full of the wrong kind of good will toward disabled workers. No doubt, a few soft-hearted employers were moved to find a few jobs for a few disabled workers. No doubt, for a few days some attention was focused upon the problem. But the problems of the Price System are multitudinous. The next week it was something else.

In the meantime, between NEPH Week 1947 and NEPH Week 1948, an additional 350,000 citizens will have incurred 'some permanent physical impairment as a result of occupational, home and traffic injuries.' (Labor Information Bulletin, August 1947). Perhaps, as a remedy Congress might be persuaded to abolish 'Be kind to Cats Week' next year and instead have two NEPH Weeks. Then, perhaps they could uncover twice as many soft-hearted bosses who would find twice as many piddling jobs for twice as many disabled workers. Every little bit helps!

The fact is that there are 17,000 different jobs which can be competently filled by disabled persons. However, these jobs will never be thrown open on an equal basis to disabled workers under the Price System. Neither will the growing army of disabled citizens ever again find a high rate of employment except under war-time conditions.

Technocracy Has The Answer

The reason is that the solution of this problem requires the overall application of science to industrial production and distribution. This is something 'good old free enterprise' cannot permit. It would mean the end of their rackets. We know that the scientific

method is applied in industrial production to some extent. However, it is applied only to the extent necessary to outproduce and undersell the other fellow. It is never permitted to operate in the field of distribution.

The problem of disabled citizens can be solved only by first abolishing the causes of disability insofar as it is physically possible. The second step is to fit disabled persons into the industrial and social structure where they can function with a maximum of efficiency and satisfaction.

If we examine both parts of the problem, we see that abolishing the problem of disability involves a thoroughgoing engineering reorganization of our entire social system. Abolishing disabilities caused by traffic accidents alone involves redesigning our entire Continental highway system, our cities and streets, and our methods of local transportation and automobile usage. Abolishing disabilities caused by home accidents (the largest single cause) involves redesigning and rebuilding our entire Continental housing system along engineering lines.

War is a giant cause of physical disability. It strikes down the young and strong. How can you abolish war without abolishing the Price System which causes war? A system operating without money and without Price, without value, exchange, trade, commerce, buying and selling, profit, usury and special privileges will be a system with nothing to fight about. It will be a system of functional culture, a system of production and distribution for the benefit of the human components involved, a system dedicated to the General Welfare of all citizens.

Deny The Principle

As a first step to the realization of such a system, we must deny the Price

System of trade and commerce. We must turn our backs on the dead past, and the futile present. We must set up and organize on this Continent the Technate of North America. This Continental Area is ready now to install an economy that will provide abundance, security and equal opportunity to all citizens, impaired, as well as able bodied.

North America has the men, machines, resources and technological development to do this job. No other

area in the world has yet attained this status. America Must Show The Way! Take the futilities, the hypocrisies and the outright lies of the Price System and throw them back in its face. Analyze this ancient and lousy System and then spit on it. Demand a Technate in North America. That's the only type of social system that can solve all of our present social problems. This includes the special problem of the physically disabled citizen, both Veteran and non-veteran.

Count Your Blessings

There are 64 principal fresh water lakes in the world. Forty-two are in North America and only twenty-two in all the rest of the world. There are 32 fresh water lakes of more than 1,000 square miles in area. North America has 20 of them. There are 32 of less than 1,000 square miles in area. North America has 22 of them.

There are 72 rivers in the world over 200 miles long. North America has 25 of them, although the Continent composes only 19 percent of the world's land area.

There are 49 principal waterfalls known in the world. Thirty of them are in North America.

There are 15 principal ship canals in the world. North America has 7 of them.

However, of the 14 principal salt lakes in the world North America has only two. (Cram's Unrivalled Atlas, 63rd Edition, 1941.)

'Geographically, the United States and Canada share the same general vertical divisions of land formation. The Maritime Provinces of New Brunswick, Nova Scotia and Prince Edward Island correspond roughly to New England. The Laurentian Mountains, spread out in the form of a shield, act as the same sort of

dividing range as the Appalachians. The Mississippi Valley has its counterpart in Ontario, spiritually as well as physically. The Prairie Provinces of Manitoba, Saskatchewan, and Alberta are a northern continuation of the plains of the United States; and finally, British Columbia is a grander continuation of Washington and Oregon The same winds bring heat and cold to the United States and Canada and the same currents of air flow across the border in circles. (Dorothy Duncan in an article entitled *Canada in United Nations World*, May, 1947.)

'A metropolis, such as New York or London, with its associated transport system and industrial plant, represents a concentration of iron, copper, lead, and zinc that rivals or exceeds in content the largest mines. Moreover, the metal deposits in such cities continue to grow whereas simultaneously the accessible ore deposits, starting with the richest are depleted. (Paul Cohen in an article entitled *Man As A Geological Force in Technology Review*, June, 1947.)

The United States Public Health Service reports that there are 4330 outside privies (toilets) within the city limits of Chicago. (*Chicago Tribune*, February 11, 1947.)

Each in His Own Tongue

By Publications Division, 8741-1

Voice of the Price System

The Sky Is The Limit

We want no one telling us what to charge and how much money we can make. When a manufacturer stops making a profit, he closes down his plant. We want to be able to do that with our property.

William Schmidt, president of the Property Owners League of Chicago in a statement to the press. (As quoted by the *Chicago Times*, June 13, 1947.)

Now, I'll Tell One

The overwhelming majority of property owners are men of good will and discrimination who would give very slowly in asking for rent increases.

Arthur W. Binns, president of the National Home and Property Owners Foundation, in the organization's monthly pamphlet *The Property Owner*. (As quoted by the *Chicago Times*, February 27, 1947)

Economic Medicine

High prices and what I call the evils of over-employment are the principal economic maladjustments which need correction. Declining prices, causing some unemployment, will do more to increase the productivity of those remaining employed than anything that management can do.

Raymond Rodgers, professor of banking at New York University, in a talk to a group of bankers at Virginia Beach, Va. in the latter part of May, 1947. (As quoted in *Labor*, June 7, 1947)

Hamburger Psychology

Woman's chief vocation has always been the man hunt. Catching a husband has always been her most exciting sport and the surest way of securing a meal ticket.

Dorothy Dix in her column in the *Chicago Times*, May 23, 1947.

Birds of a Feather

To us, the American attitude is excellent. It is tacit approval of the methods which Spain has been using for 10 years.

Comment by an official radio commentator on the Franco-controlled radio regarding the radio plugging of a pamphlet entitled 'Communist Infiltration and How to Fight It,' published by the U. S. Chamber of Commerce. (As quoted by *Local 600's Ford Facts*, May 3, 1947)

Count the Noses, One by One

What's the difference if butter is 50 cents a pound or \$1 a pound? What is the difference to a legislator . . . The reason why so many are talking about being interested in consumers is that the population statistics show there are more consumer voters than there are producer voters.

U. S. Senator W. Lee O'Daniel ('pass the biscuits, Pappy') (Dem. Texas). (As quoted in the Washington column of the *Philadelphia Inquirer* and reprinted by the *New Republic*, August 8, 1946).

Don't Mention Social Problems

If you have a safe lead in the election, it is wise to stay away from controversial issues. However, if the contest is in doubt, or if you are obviously trailing, you can lose nothing by carrying the fight into the other camp, i.e., by waging a spirited offensive.

A paragraph from *How To Break Into Politics* by Martin E. O'Shaughnessy, a public relations consultant in Chicago. (As quoted in John Dreiske's column in the *Chicago Times*, October 19, 1946)

Those Godless Scientists

The unity of the human race was not attacked first by upstart dictators of Fascism and Nazism, but by pseudo-scientists in stories of anthropology urging that the world was a process of evolution and not a creation of God. They were the first atheists who first tried to destroy the brotherhood of the human race.

His Eminence, Cardinal Stritch of the Catholic (Roman) Church, in a talk to three Polish-American societies at the Congress Hotel, Chicago, August 7, 1947. (As quoted by the *Chicago Daily News*, Aug. 7, 1947)

Voice of Technology

Price System Conspiracy

From a series of investigations that have been considerably more elaborate and detailed than those made of any other industry, we have concluded that the housebuilding business is medieval in its restrictive, guildlike organization, archaic in its production methods, inadequate in its capitalization, and obscene in its politics. In the urban U. S. it is subservient to an antique trade unionism that, for half a century, has identified collective bargaining with high rates, low output, resistance to innovation, and a succession of dreary jurisdictional quarrels.

From an editorial in *Fortune Magazine*, September, 1947.

Not If We Adopt Technocracy

Is our civilization to end in breeding the robot and rentier and go down under class conflicts at home and fratricidal war abroad? Is there much point in multiplying by a million the powers already conferred by science if the uses we make of those we already have are sufficient to endanger the future of civilization?

Frederick Soddy, professor of Chemistry at Oxford University. (As quoted by the *Chicago Daily News*, August 6, 1947).

Been Going On A Long Time

Nothing can now be believed which is seen in a newspaper. Truth itself becomes suspicious by being put into that polluted vehicle. The real extent of this state of misinformation is known only to those who are in situations to confront facts within their knowledge with the lies of the day. . . . I will add that the man who never looks into a newspaper is better informed than he who reads them; inasmuch as he who knows nothing is nearer to the truth than he whose mind is filled with falsehoods and errors.

Thomas Jefferson, third President of the U. S., in a letter written to J. Norvel in 1807. (As quoted by *Local 600's Ford Facts*, August 23, 1947)

Fruits Of The Price System

As a race we suffer from a major neurosis. We have complex multiple choices to make today, but we try to

decide from among the simpler choices of other days. . . . We cannot face the magnitude of our failures or the ineffectiveness of the supports and drugs we have devised against our fears. We dare not confront ourselves with the evidences of the impotence of our devices and our soothsaying to control our destructive drives. We are a sick race. But we have minds capable of applying to our affairs the triumphant methods of experimental science. . . . In these lies our hope for survival.

James Marshall, member of the Board of Education of New York City, in a talk at the Ninety-sixth commencement of Hunter College. (As quoted by the *New York Times*, June 22, 1947)

It's a Matter of Degree

The distinction between the college graduate and the nongraduate is becoming more marked every year; and the importance attached to a college degree has reached the point of absurdity in many fields. Thousands of students now attend college not so much to gain an education as to obtain degrees which will serve as 'passes' to desirable positions and advancement after graduation.

Henry M. Wriston, president of Brown University, Providence, R. I., in an article in the *American Magazine*, Vacation issue, 1947.

That's Its Business

We now have the technological equipment to produce enough food and goods to provide everybody with a high standard of living with a minimum of physical effort. But we have not realized any such benefit, because our potential productivity has been curtailed and sabotaged by an economic system, which arose in the period of handicraft industry and is consecrated to the limitation of production and linked to the economy of scarcity.

Harry Elmer Barnes, historian and educator, in his book *Social Institutions*, page 865.

Lower In Energy Cost Also

Industrial consumers have made it possible to distribute gas for domestic and commercial uses at lower prices than could otherwise exist. If the industrial load was eliminated by restrictions, the development of new pipeline systems would be retarded and existing systems would be compelled to increase their rates to compensate for low load factor operation.

George F. Mitchell, president of the Chicago District Pipeline Co., in testimony before a fact-finding panel of the Federal Power Commission, February 23, 1946. (As quoted by the *Chicago Daily News*, February 23, 1946).

Clerical Infiltration

On behalf of our group here, representing both northern and southern Baptist conventions, we feel that the recent exchange of letters between President Truman and the Pope, in which President Truman associated the American government with the Vatican in a crusade apparently against communism, violates our cherished American doctrine of separating church and state.

We Baptists resent, and we believe the American people will resent, the implication that our government is an ally of clerical totalitarianism. We believe that it is a disservice to the world's hope for peace to identify American aims with those of Roman clericalism.

From a statement by Dr. Duke McCall and Dr. Frank K. Means, representing 44 American Baptists, sent to Europe to study Baptist relief work. (As quoted by the *Chicago Tribune*, August 31, 1947)

In The Question Box

Science of Society

By Speakers Division. 8741-1

How much of communism has Technocracy in its program? E. W. D.

The answer is none at all. Communism consists of a body of moral philosophy employing the customary political and financial methods of a Price System in a new way so as to bring about the more equitable division of a natural scarcity. It is a variation of the ancient Price System for the benefit of a greater number of citizens.

Technocracy consists of a body of scientific concepts employing non-Price System, technological methods for the distribution of an abundance. It is not a variation of the ancient system merely for the benefit of a greater number of citizens but a complete abandonment of it for the higher welfare of ALL citizens.

Communism and Capitalism

In order to distinguish between communism and Technocracy it is necessary to understand the similarities and differences between communism and private capitalism.

Communism, being just another type of Price System, is as valid and workable a system as private capitalism in any area where natural scarcity prevails. History records cases of the successful operation of both systems.

Both systems are concerned with the manipulation of scarcity. Communism functions to divide it more equitably. Private capitalism functions to exploit it inequitably. Thus, we see that the functional difference between the two systems is moral in character.

Private capitalism is organized sole-

ly to exchange goods and services by methods of buying and selling on a basis of value. The value is determined by the relative scarcity of products. It is expressed in terms of a price. The medium, or vehicle, for carrying on this exchange is money and transactions are carried out so that a profit accrues to the seller. This profit is then channelized into private hands for private purposes.

Communism uses identically the same methods and system of trade and commerce. The difference is that it channelizes all profits into the government treasury for public purposes. It can be said that communism is a type of public capitalism exercised for public purposes; while orthodox capitalism is a private system exercised for private purposes. Thus, we see that the operating difference between the two systems is in the question of who gets what.

Communism claims to reflect a specific or implied mandate from its human components to do something about social conditions. Private capitalism claims a mandate from the moon and two thirds of the entire universe. Actually it represents nothing but itself and the human components concerned are only a part of its stock in trade. Thus, we see that communism and private capitalism are two different stages of development of the same fundamental system. However, they are both Price Systems.

Technocracy

The basic difference between communism, private capitalism and Technocracy is that both of the former

systems are variations of a Price System organized to manipulate scarcity, one equitably, the other inequitably.

Technocracy is not a variation of the Price System. It is a complete abandonment of it. It is not just another way to manipulate scarcity. It is an engineering design for the distribution of an abundance.

Since natural scarcity does not exist in North America any longer neither communism or private capitalism can operate validly here now. That is why communism is out of order on this Continent. That is why private capitalism has been living off the government for the last two decades. That is why a scientific social system such as Technocracy proposes is the only valid system for this area now.

Social problems in areas of natural scarcity are political, financial and moral in character. In areas of potential abundance they are technical in nature. That is why all Price System attempts (whether of the left, right or center) to solve social problems in North America are futile.

Potential abundance, in any area, is signified by the possession of sufficient resources plus a stage of technological development capable of producing abundance from those resources. As yet, only one area on earth, North America, has both of these qualifications.

Goods and services must be less than abundant in order to possess exchange value so they can be manipulated. Consequently, it is not possible to manipulate an abundance either equitably or inequitably. All that can be done is to distribute it or destroy it. When you destroy it you enforce an arbitrary, artificial scarcity. This can then be manipulated the same as natural scarcity. That is what the American Price System has been doing for the last two decades while living off the government.

It is not possible to divide an abundance of anything equitably. This is because abundance does not mean almost enough or just the right amount. It means an overflowing quantity. This is an indeterminate amount. How can you divide that? How divide the air that blankets the earth? How divide the sunshine on a bright summer day? How divide the ice at the North Pole? The answer is you can't divide an indeterminate quantity. All you can do with air or sunshine is to provide or refuse access to it.

That's the way it is with goods and services where they are potentially abundant. You can not divide them. So that rules out all political, financial and moral philosophical methods. All you can do is provide access, i.e., make the goods and services available to all citizens on equal terms. This is what is meant by distribution. Consequently, if you decide to distribute the abundance in this way you must set up a social-industrial mechanism designed for that purpose. This fact is what makes North America's social problems technical problems.

Although it is not possible to divide an abundance equitably it is also not possible to distribute it any other way except equitably. This is not because of any considerations of 'right' or 'wrong' in the design of distribution. It is because that is the only way the factors will add up. It is the only way the design can operate. Its equity resides in the fact that all citizens have access to the abundance on equal terms. Could anything be more equitable than that?

For thousands of years moral philosophers have inveighed against the selfishness and greed of men. They tried to persuade them that the motivating force in human affairs should be equity, unselfishness and brotherly love. At the same time these same gentlemen participated in upholding

a social system (the Price System) that made such a code of conduct physically impossible.

Then along came Pappa Karl Marx. He worked out a new approach to this ancient problem. His idea was to substitute compulsion for persuasion. Then men would have to be good whether they liked it or not. The exploiters would all be liquidated; liberty, equality, etc., would prevail; and the tyrannical STATE would gradually wither away under the beneficent sunshine of a 'dictatorship of the proletariat.' But, Alas! Pappa Karl's plans called for the use of the same Operating Rules of the same old social system that had made the job impossible before. It's just too bad.

Today we are harangued from all sides by disciples of both schools of moral philosophy, persuasion and compulsion. Social problems are less amenable to either moral suasion or coercion now than ever before in human history. Yet, this fact does not discourage the moral philosophers. They fare forth in legions, firmly mounted on the dead past and armed with an unlimited supply of social stupidity. May they have happy hunting in their endless search for the magic grail that makes all men brothers under a Price System. It will take SOME magic. For, as long as the Price System lasts, whether communism or private capitalism, there will be very little equity, unselfishness or brotherly love permissible in human affairs.

If we wish to see these desirable conditions brought about it is necessary to scrap the methods that they failed for thousands of years. Instead we must employ the method that in less than 200 years has created all the worth while things in modern civilization. This is the scientific method. In this approach equity does not appear as a primary motivating

force but is realized as a result of the application of scientific principles.

Edison didn't use equity to develop the electric lamp. Yet, it casts its light over sinner and saint impartially. Bell didn't use equity to devise the telephone. Yet, it is available to all without partiality. The same power that burns the life out of a man in the electric chair may also warm a baby's bottle, or bring soothing heat to an invalid's bed. The power doesn't stumble and falter over considerations of equity. It is completely impartial to all and being thus it is completely equitable to all.

In the case of entire social systems the same idea holds. Equity appears as an automatic after-effect of the application of technological principles to social problems. It is a direct result of correct social engineering. Like the fabled Shamrock of Ireland it can be found nowhere else.

If we define equity to include all the hopes and aspirations of men that have died aborning ever since history began we can readily see that the only way they can be realized is by the application of Science to Society.

That is what Technocracy is, the Science of Society. If you can see any communism in this program you have better bifocals than we have, Mr. W. E. D.

Machines Make Jobs

'Leading manufacturers of locomotives in the United States have recently laid off between 4,000 and 5,000 men in their steam locomotive divisions, Dow-Jones News Service said today. As a result of the swing of American railways to the Diesel-electric locomotive, orders for steam locomotives have fallen to the lowest level in years.' *Chicago Daily News*, May 14, 1947.)

NOTICE

To Our Readers

If you will send in seven names to 'Great Lakes Technocrat,' together with a one dollar bill we will mail each one a sample copy. 7 for \$1.00.

Facts in a Nutshell

'The New York Central Railroad today disclosed it has placed orders for 70 additional diesel-electric engines . . . When deliveries on its new order are completed the railroad will have 158 diesel-electric units . . .' (*Chicago Tribune*, April 29, 1947.)

'A three-ton slab of steel (30 inches wide, 150 inches long, and 5 inches thick) can be rolled into a 750-foot length of sheet steel (30 inches wide and 0.080 inch thick) in 90 seconds in a recently constructed continuous hot strip mill. (*Steel Facts*, August, 1947)

In 1899, says a Twentieth Century Fund survey, electricity provided 5 percent of the power used in manufacturing. Thirty years later, it provided 80 percent of the power.

According to a Twentieth Century Fund report, used houses on the average account roughly for three-fourths of annual residential sales.

In March, 1945 a special committee was appointed in Massachusetts to study the liquor problem. After an exhaustive study the committee reported that for every dollar the state collected in liquor taxes it spent \$4.68 to take care of victims of this type of free enterprise. (*Labor*, June 21, 1947.)

Some Technocracy Section Addresses in Great Lakes Area

- 8040- 2—Box 356, Ambridge, Pa.
- 8041- 1—1613 East 51st St., Ashtabula, Ohio.
- 8141- 3—39 E. Market St., Akron, O.
- 8141 -7—P. O. Box 270, Barberton, O.
- 8141-14—P. O. Box 553, Kent, Ohio.
- 8141-15—10537 St. Claire Ave., Cleveland 8, Ohio.
- R. D. 8242—c/o John Reynolds, St. Clair, R. No. 2, Mich.
- 8341- 1—3242 Monroe St., Toledo 6, Ohio.
- 8342- 1—9108 Woodward Ave., Detroit 2, Mich.
- 8342- 2—112 N. Tasmania, Pontiac, Mich.
- 8343- 1—6717 N. Saginaw St., Flint 5, Mich.
- 8439- 1—37 E. Fifth St., Dayton 2, Ohio.
- 8741- —3178 N. Clark St., Chicago 14, Ill.
- 8743- 1—3546 N. Green Bay Ave., Milwaukee 12, Wis.
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- 9648- 1—819 N. Duluth Ave., Thief River Falls, Minn.
- R. D. 9737—4442 Bayley, Wichita 9, Kan.

TECHNOCRACY

NORTH AMERICA'S ONLY SOCIAL DYNAMIC

WHAT?

★ Technocracy is the only North American social movement with a North American program which has become widespread on this continent. It has no affiliation with any other organization, group or association either in North America or elsewhere.

★ The basic unit of Technocracy is the chartered Section consisting of a minimum of 25 members and running up to several hundred.

★ It is not a commercial organization or a political party; it has no financial subsidy or endowment and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$6.00 which are paid by the member to his local Section.

★ Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHERE?

★ There are units and members of Technocracy in almost every State in the U. S. and in all Provinces in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces.

★ Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHEN?

★ Technocracy originated in the winter of 1918-1919 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934, Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundations of the present nation-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHO?

★ Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life, Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this continent. Membership is open only to North American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective political office or active office in any political party.)

★ Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—as long as you are a patriotic North American—you are welcome in Technocracy.

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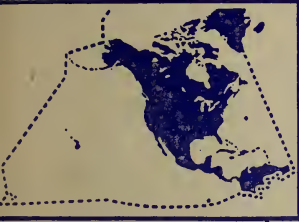
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JANUARY - FEBRUARY, 1948



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GREAT LAKES TECHNOCRAT

JANUARY-FEBRUARY, 1948

VOL. IV. No. 8

WHOLE No. 89

Illustrating the Futility of Price System Methods of Operation; Interpreting the Trend of Events from the Social Aspects of Science and Presenting the Specifications for Permanent Postwar Prosperity.

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Our Middle Aged Economy

By David Cushman Coyle, Structural Designer and Consultant

This article is condensed from the article by Mr. Doyle which appeared in the 'Survey Graphic' for August, 1947. It is reprinted by permission of Survey Associates Inc. The article is based upon original work by Alfred G. Norris of the University of California.

When a man or woman is first called "middle aged" it is a shock, and in the same way the idea that American business is now "mature" is scornfully rejected by the average American who has believed for about three hundred years that this is a young country.

Nevertheless, the evidence of the charts speaks for itself.

The studies here reported do not show any signs of age or weariness in the American productive system, or in our technology. But they do indicate that "business" or management is not quite keeping up the pace. Possibly, after all, some of the old boys who set our patterns and whose keenness is supposed to solve our problems would be more useful playing golf in Colorado or Florida the year around.

Anyway, this is a sort of medical report on their symptoms, based on a study by Alfred G. Norris of the University of California, under the title "Employment Trends in the United States since 1900." Mr. Norris has a new system for charting the curve of employment, to bring out more clearly the trends that indicate how we are doing.

The study indicates that the sources of jobs in the United States have passed their prime and are getting feeble. As an economic society, we appear to be in the late middle-aged group. The trends do not show the youthful lift which most people like to think is in the blood of the American system.

"Trends" are records of growth, and in economics they are usually shown as curves on a chart. One way to picture a trend is in terms of how big, such as how big is the annual employment in the United States. This draws the trend line, or average, up and up, accompanying the gain in population. Another way is to show percentages of

growth each year, on a chart with equal vertical spaces standing for an equal proportion instead of the same number. If, for example, the rate of growth is falling off, the curve on this chart begins to droop and it is easy to see where it is likely to level off to no growth at all. Almost all American industries have drooping trend lines on this kind of chart, meaning that their vital force is not what it used to be. Like it or not, their chests are beginning to slip downward.

Mr. Norris, on the other hand, has drawn the curves of employment in terms of percentage of the population. That is, he takes the total population each year as 100 percent, a constant horizontal line. His first concern is with the "labor force," all those who need paid jobs, and this element of the population shows up as a wavy line crossing the page, around 40 percent of the whole. (Chart A)

Actual population in the United States, of course, has risen steadily, and from 1900 to 1910 the percentage of the labor force also rose, due to immigration, the growth of industry, the use of child labor on wage jobs, instead of on the farm, and the growing employment of women. Then it fell with the reduction of immigration and child labor and the building of high schools. Since 1925 it has been coming up slowly again, as the proportion of people of working age increases and more women go into paid jobs. About 40 percent of the population in 1910 and in 1940 needed to earn their living, and the percentage may rise slightly until 1990, unless more young people stay in school and more old people retire. This line is not a "trend" or growth curve. It merely registers our changing habits and customs about working for a living.

Now, with our eyes fixed on this important percentage of people who want jobs and must work for a living, it becomes clear that our pursuit of happiness as a society will depend on how jobs are made available to these people.

So, Mr. Norris proceeds to draw in the curves for the percentage of the population employed in various industries. Employment is shown in total and also is divided into the general classes of physical work (production and transport) and personal work (trade and services). These curves throw a new light on the progress of our economic system.

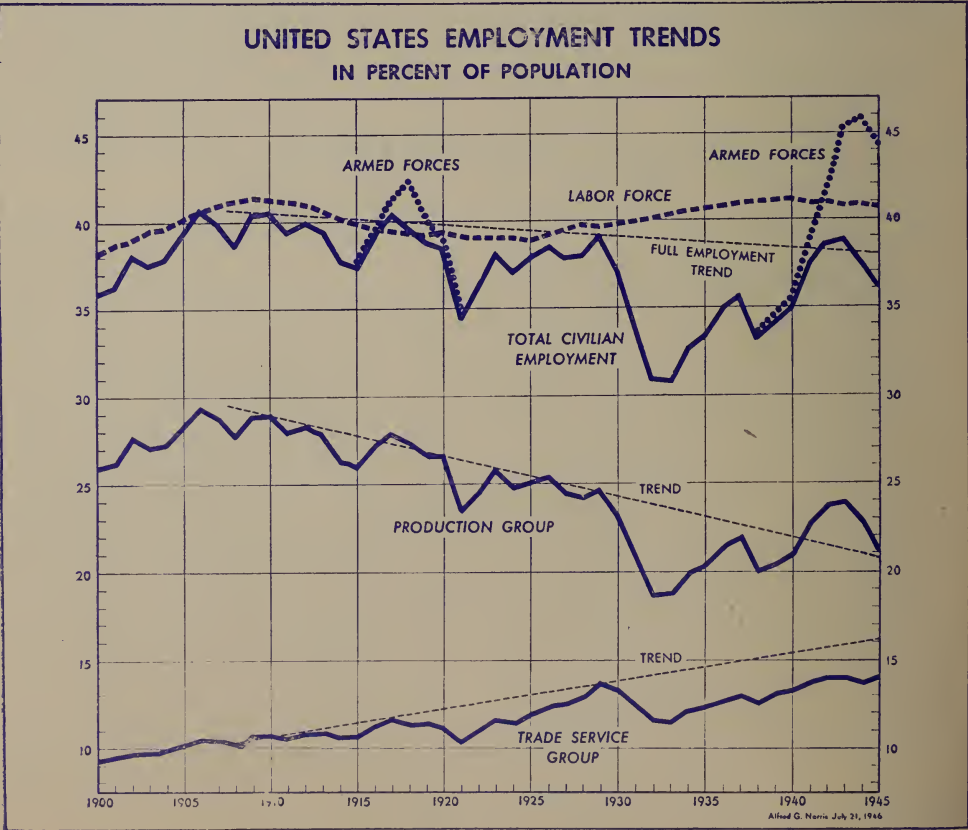
It is these employment curves that show the trends. Take first the curve for total civilian employment, which shows the waves of prosperity and depression, and two special war booms. Skipping the war booms, look at the peaks that represent peacetime business at its best, or "full employment" for practical purposes. The two high-

est ones are at 1910 and 1929, and the trend line from 1910 to 1929 slopes down. The peak in 1943 was a war boom.

In other words, if we make as good progress from now on as we did from 1910 to 1929, the next peacetime peak of prosperity will give us about 37 percent of the total population employed. That means four or five million out of work at the top of the boom. It's not good enough, even if we could find out how to smooth the curve and keep always close to the top.

The other two curves on the chart give a hint as to why full employment is so hard to reach, except in wartime. One represents "production" and the other "trade and services." The production curve shows the percentage of our population in factories and mines and on farms and in transportation, that is, on the making and moving of material goods. This is the curve that shows most clearly the effect of technology. The line from the peak of

CHART A



1910 to 1929 goes down a sharp slope. The curve goes above this line twice, but both these humps were war work. In 1910 we had 29 percent of our population working on production, and we have never come anywhere near that since. *Even in 1943 in an all-out war effort, only 24 percent were in production. (Italics Ours)*

But how about our stupendous output that won the war? It was done with mirrors, practically. In spite of some graft, and some soldiering on the job here and there, it was efficiency that turned out the thousands of tanks and planes. Science did it, and all the millions of men and women on the job never added up to the proportion of peacetime workers of a generation ago.

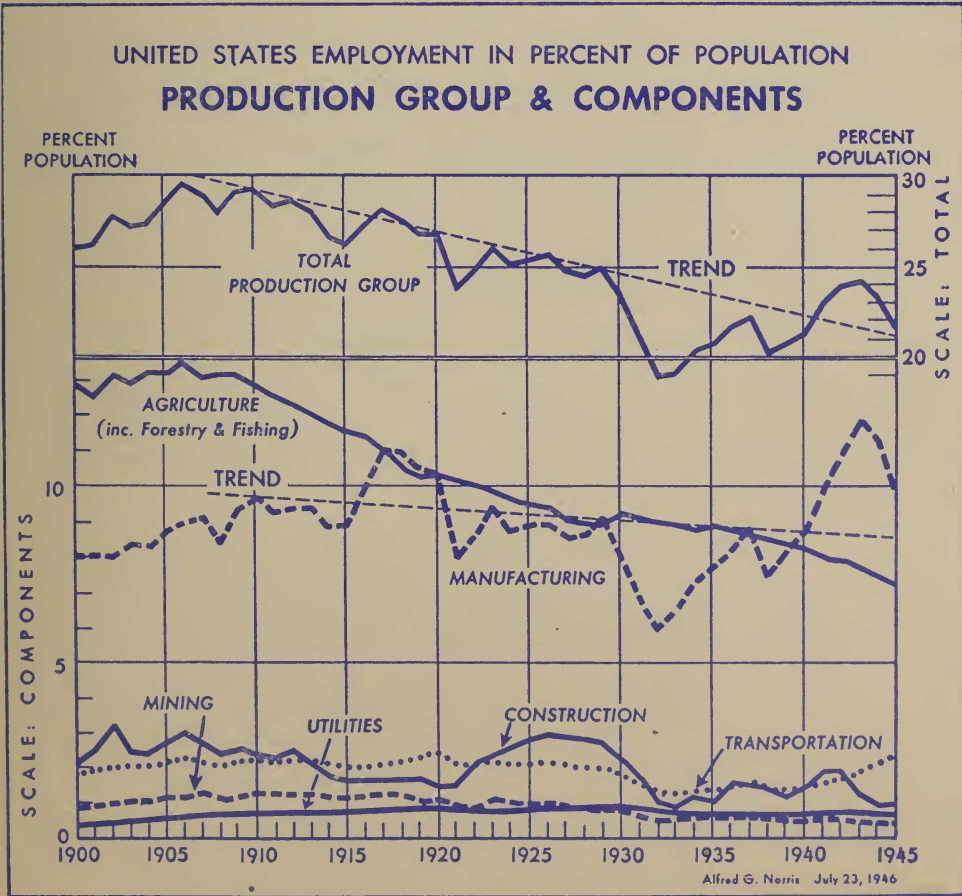
The production per man-hour in industry gives the reason. Average production per man-hour increased 61 per-

cent from 1920 to 1930, another 37 percent from 1930 to 1940 during the depression, and 11 percent more from 1940 to 1943 with the building of new efficient war plants. Nothing mature or decrepit about our science and technology, so far.

The curve of employment in production (Chart B), as a percentage of the population, passed its peak, or reached "maturity," in 1910, and for forty years has been sliding down into old age. It will not go down to zero, or death, unless the atom puts the cap on the perfect work of science and invention. But it will flatten off with a small proportion of our people, perhaps 10 to 15 percent, earning a living by making and transporting things, as we draw closer to the Push-Button Age. There will still be a few engineers making push-buttons and oiling the machinery.

It is important to keep in mind that

CHART B



old age is not catching. The American people or the United States as a nation need not be old just because one form of economic curve is getting gray. What we see here is the curve of "the curse of Adam," that in the sweat of his brow man should eat his bread. We have been fighting that curse with science and invention. The strength of the curse of Adam is measured by what proportion of us have to work to supply goods for all of us and that is what went over the hump in 1910. It is the necessity of long hours at low pay that we have made grow old and feeble so that the ancient curse is no longer so masterful.

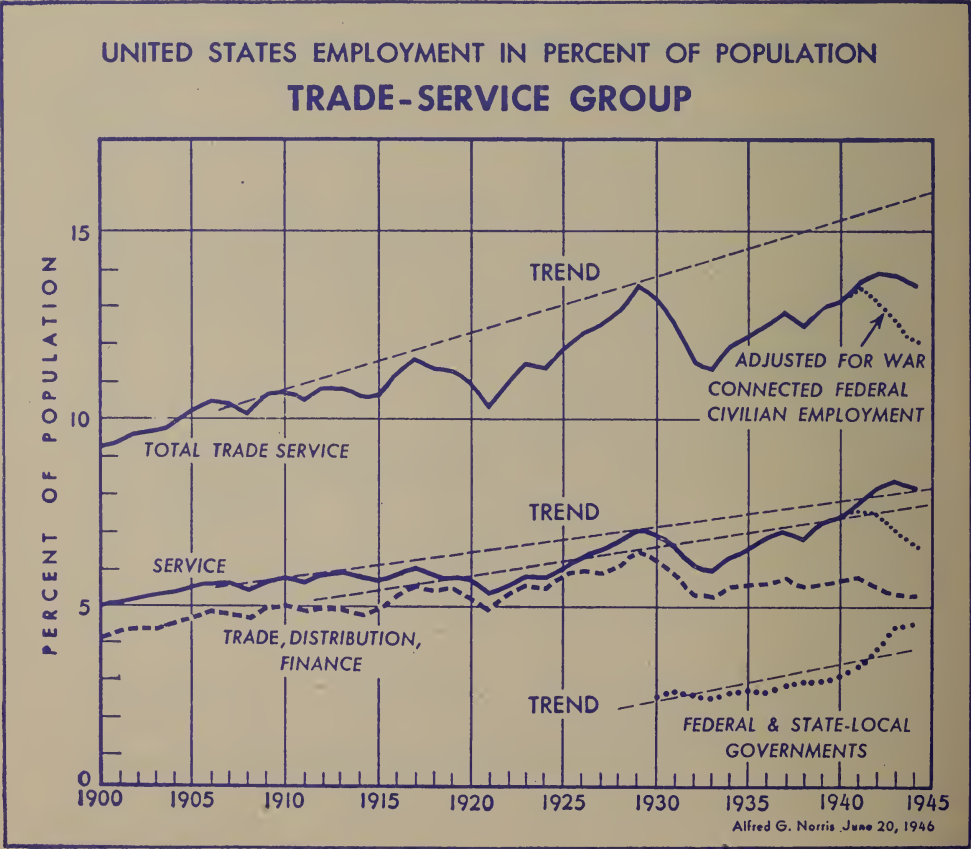
Science and invention have the old slave driver groggy. Science in some of its branches is not old, and technology showed its vigor in the tremendous production record of the war. The signs of old age are not in the factory but in the office, not in capacity to produce but in capacity to find

jobs for workers. The victory of technology makes a problem of where to find jobs, but it is still a victory and nothing to regret.

This brings us to the other curve, trade and services (Chart C), representing the percentage of our people keeping store, teaching, doctoring, banking, cooking, or working for the government, in other words, taking in each other's washing. The trend line for services is full of youth and vigor, almost. If it sloped upward a little faster it would offset the down slope of jobs in production, and since total employment is the sum of these two, would lift the total employment to match with the labor force.

The trouble with this trend is that after employment in trade and services slipped in 1929, it never got back to the previous trend line, even in the war. A touch of "maturity" seems to have struck it, also, and it has never been quite the same since. When the curves

CHART C



of trade and services are drawn separately, the drop is seen to be almost entirely in the curve of trade.

The details are not shown here on the chart for Trade and Service, but they can be told simply. Service as a whole holds its upward slope fairly well, though its growth is evidently not fast enough to make up for the down swing of employment in production. Domestic service took a sinking spell from 1910 to 1920 and has never come back. State and local government jobs, not separated on the chart, have gone up a little since 1930. Federal employment rose noticeably after 1930 but did not reach one percent until the war. Medical services and various other lines such as barbers, janitors, lawyers, etc., rose a little, but are too small to show (less than one-half percent each). The data showing private enterprise services as a whole since 1930 are not extensive enough to indicate a trend.

Trade, distribution, and finance, Chart C, look feeble since 1929. What happened, apparently, was a shot of technology in storekeeping, mainly in the form of supermarkets and large department stores. The statistics show that in retail stores about the same number of shirts or cans of beans was sold in 1939 as in 1929 to a customer, but the number of store workers to a customer dropped 12 percent.

The fairly good vitality of Trade and Service employment, therefore, is the sum of a number of trends, in which the only vigorous ones are in the public services, medicine, and a few minor fields. Of these, the public services are the strongest, so far, but they are under attack.

But let's go back to production, regarded by conservatives as the only "real" addition to national wealth and income. The principal details of the production-transportation jobs are shown on the lower part of Chart B, separated to avoid confusion. The percentage of population working on farms was the first to pass its peak, more than a hundred years ago, and it still is sliding steadily downward. Agriculture, forestry, and fishing took 12 percent of the population in 1910, and dropped to 7 percent at the end of the war in

1945. This down slope is caused by science.

Manufacturing, on the other hand, is dropping more slowly. Its trend line hit a peace time high at a little below 10 percent of the population in 1910, and slid down to about 8½ percent (as of 1940) if we disregard the war boom. Technology turns the line downward, just as in agriculture, but the increase in production has been far greater, and that holds the line up. The line slopes gradually down because the increase of output has not quite made up for the technology.

Construction employment has perhaps a slight downward trend. Building depends on whether the wave of prosperity is pointing up or down, and so the building trades swing with the business cycle from boom to bust. Probably in the long run, construction work will be less, partly because of technology, such as prefabricated houses, and partly because we are through building railroads and skyscrapers, and are getting along with our new dams and bridges.

Transportation, mining, and public utility jobs are all on the downgrade, because of technology. Mining may take more men a ton as the mines are worked down, but some metals will run out soon, and coal mining faces the atom on one side and underground burning on the other. before many years.

What do all these curves add up to? Not one of them of any importance, except government employment, shows any strong tendency to offer more jobs in proportion to the population. All the others are being pushed down by technology, including even domestic service. But the people of the United States are still full of vitality and have not intention of sinking into old age yet awhile. Something new has to be added, and the people must add it on their own steam.

Editor's Note:

This article is a splendid example of scientific analysis. There are only a few things wrong with it. Nowhere is there any explanation of how the impact of science and technology brings about the trends illustrated. Another omission is the failure to even allude to the multitudinous social effects produced by these trends, aside from employment and unemployment.

It is a fact that most of our modern social prob-

lems have been either produced or intensified by the impact of science and technology and the failure of the Price System of trade and commerce to adjust its social institutions accordingly. The Price System controls the stop and go lights on social change, not technology. Consequently, the Price System must bear responsibility for the social mess of today. When technology is set free most of these problems will disappear like a snow ball in hell.

The reader will notice that the article has no conclusion, or synthesis. We had to leave it out. In the original article that appeared in the August, 1947, 'Survey Graphic' Mr. Doyle did present his conclusions. However, they are quite unfit to be presented to an audience that understands the social aspects of science and the characteristics of the ancient Price System.

Even Barnaby's pixie Godfather Mr. O'Malley waving his magic cigar couldn't cure a disease by manipulating the symptoms of that disease. Neither can the social problems produced by Price System operations be solved by the use of other Price System methods of operating. A new approach is needed, and it can be found only in the social aspect of science.

The trends illustrated were pointed out by Technocracy many years ago. For instance, Howard

Scott pointed them out in the first issue of 'Technocracy' magazine published in May, 1935, in an article titled 'America Prepares For A Turn In The Road. He has dealt with them dozens of times before and since. Also, in Man-Hours, A Declining Quantity by M. King Hubbert in 'Technocracy' magazine for August, 1936, the subject is well covered. Any student may find the subject of industrial growth curves extensively explained in the Technocracy 'Study Course Book.' Finally, references to and illustrations of the trends so ably charted by Doctor Norris and explained by Mr. Doyle have appeared literally hundreds of times in the general field of Technocracy literature in the last fourteen years.

Nevertheless and notwithstanding, Great Lakes Technocrat is glad to print this article. Technocrats are always tickled pink to see examples of the Price System catching up with Technocracy. Sometimes it takes a little while but that is to be expected. Technocracy is engaged in the unique occupation of manufacturing thunder for the Price System to appropriate. The more it appropriates the more it is forced to appropriate. When it has appropriated enough it will have appropriated itself out of business. If you do not know what this means ask some Technocrat to tell you the Fable Of The Rosebushes.

Breakers Ahead

Mill and Factory magazine put out a special issue in May, 1947. It's called the 'Industrial Productivity Handbook.' The issue runs to 684 pages and is 1 1/4 inches thick. All the late material regarding productivity has been assembled. The book is a mine of information about new technology.

In the forepart of the book is an 8-page panel of opinions by what *Mill and Factory* call the 'Progressive Leaders of Labor and Industry.' Just to see how progressive they were we read their opinions and then tallied up. The desirability of greater production was mentioned 97 times by the 32 gentlemen represented. The vital necessity for DISTRIBUTION got only 4 casual nods. Evidently these gentlemen believe in a Santa Claus type of social system where you produce but don't have to worry about distribution. Maybe they figure Uncle Sam will be a perpetual Santa Claus for Good Old Free Enterprise.

Four percent of U. S. Corporations get 84 percent of all the profits. ('Machinists' Monthly Journal,' August, 1947.)

One third of all dwellings in the U. S. are over 30 years old. ('U. S. News,' September 19, 1947.)

There are about 46,000,000 spending units

in the U. S. In 1946 82 percent of the spending units got less than \$4,000 a year. A spending unit is defined as all persons living in the same dwelling unit and belonging to the same family who pool their incomes to meet major expenses. ('Federal Reserve Bulletin,' July, 1947.)

Personal incomes rose 4 percent from May to September, 1947, but retail food prices rose 14 percent. In reporting this prosperity in reverse 'Business Week' for October 4, 1947 says that people 'get by' by: A. Saving less. B. Drawing on past savings. C. Going into debt. D. Spending less for other things.

Between April and October, 1947 installment buying increased 43 percent in Canada while cash sales declined 42 percent. ('Business Management' magazine, Toronto, Ontario, October, 1947.)

A questionnaire recently sent out to 3,500 members of the New York Credit Men's Association produced the following replies. Eighty percent of them expect a business 'recession' to begin in the second quarter of 1948; 93 percent expect an increased number of business failures; and 95 percent reported that collections were slower than in December, 1946. (Data from 'Wall Street Journal,' October 1, 1947.)

Who Does Your Thinking?

'I Do Mean You!'

By Sam Pavlovic, R. D. 9344

'We may divide thinkers into those who think for themselves, and those who think through others . . . The latter are the rule, and the former the exception . . . The first are original thinkers in a double sense, and egotists in the noblest meaning of the word . . . It is from them only that the world learns wisdom.' (Arthur Schopenhauer, 1788-1860.)

He Knows All The Wrong Answers ..

The individual American is no dope. Most social psychologists are in agreement with this statement. Americans, as a rule, consider themselves sharp and hep, to use the vernacular, in regard to the world around them. Science and technology, despite the shackles of the Price System, have provided Americans with their unique culture. This culture is reflected in the psychological attitude of those who draw the lucky numbers on the Price System wheel of chance. In short, most mental attitudes are in proportion to the debt certificate intake.

Now, in the matter of social thinking, the bulk of Americans hold a low IQ. This is no startling revelation. There is a certain viciousness to social conditioning. All of our social patterns are still premised on the obsolete values of the long eras of hand toil and scarcity. This, too, is quite self-evident. It is recognized that the bulk of the population lives in the immediate moment, such as it is, fashioned for them. In consequence, the greater proportion of Americans entrust their social thinking to somebody else. In doing so, they also put their personal welfare and the destiny of America into the hands of others.

Remember, your social welfare and destiny is in direct proportion to your applied interest. That's plain enough, Mr. and Mrs. American. Remember, too, the next guy always looms large in the social picture; he sets the pace. You only go so far and then, kerplunk, you smack into him. That's as far as you go. Many Americans are frustrated in that they are denied their full functional expression in society. It isn't through their ignorance but the ignor-

ance of the next guy that they are stalemated on the same level. A pile of today's barriers toward social betterment are strictly psychological; they are in your noggin, Mr. and Mrs. American.

As A Man Is So He Thinks

In the long centuries that man was in servitude to ignorance, he could only partially adapt his physical environment to himself. The general pattern was grueling toil from dawn to dusk for the great mass. The standard reward was always the same. It included famine, pestilence, war, crime, insecurity and a few other sundry inconveniences. In these long centuries that *Homo Sapiens* was perplexed and regulated by the same physical enigmas, there developed a basic set of rules—the rules of the game of the Price System. You know them. You're in the game every day.

Then, somewhere, in his cultural and intellectual development, old *Homo* found the right combination in the apparatus of his noggin; scientific method they call it. He started to apply this method to the solving of the enigmas of his physical environment, and, lo, they started to fade. Here in America, with the aid of science and technology, *Homo* finally rid himself of that tenacious and unwanted bedfellow—scarcity. He replaced him instead with a genial newcomer called abundance. There is a catch to this picture of bedfellows. It seems, after a long siege with scarcity, *Homo* doesn't trust newcomers. Abundance has to sleep outside the door most of the time.

In an impersonal view of the American scene, let's take a peek down the block where our fellow citizens are

crossing the corner. Of course, a great many of them are just standing still. The ones who are moving, as a rule, don't stand out in bold outline, but crossblend and merge in a mottled pattern. Let's pick them out just for the fun of it. You should be interested, Mr. and Mrs. America; they do a lot of your thinking.

Some Stink Worse Than Others

Here comes a guy we generally can hear before we see him. He's the Belly-acher. To him everything is going straight to hell. The country is lousy. The guys who run it are lousy. In fact, everything is lousy. One type of this citizen is in immediate favor of knocking off a definite percentage of his fellow beings. 'Kill the dirty —s,' is his favorite phrase and solution. Outside of disturbing the status of the air around him, he's not dangerous in a physical sense. In the event of a showdown, he would be the first one heading for the woods in high gear. He may impress you as a clown or a crackpot, but, don't forget, this guy is the carrier of all the vicious bacteria of the historical prejudices of the Price System. He does a lot of your thinking, Mr. and Mrs. American.

Now, here comes another fellow citizen. We can tell his walk. Let's call him Stooge. He is today's representative of all the accumulated Medieval nonsense and hocus-pocus. He is the carrier of a nasty germ—sanctified ignorance. When he talks, you can almost smell the stench of the gutters of a Medieval town. You can hear the rustle of the purple robes that covered the ignoramuses who burned Bruno at the stake for the crime of enlightenment; and the creak of the Inquisition's torture rack, punctuated by the screams of its victims is audible, too. His predecessors opposed street lamps and umbrellas, on the ground that in the overall pattern it was meant to be dark and for rain to fall on human beings. All of his thinking is patterned and conditioned by the dogmas of a narrow, bigoted yesterday. He is conditioned to oppose any social change; the ancient rackets must prevail. Take a good look at him, Mr. and Mrs. American. He does plenty of your thinking.

Some Think They Think

Now, here comes a decent sort of appearing fellow across the street. He looks like a pretty good Joe. For that matter, let's call him Joe. Sociologists say he is the balance wheel in our social set-up. His turning makes it easier turning for the Big wheels. Joe, like most of his kind, is all thumbs and ever ready to stick all of them into the leaks of the Price System dikes. Joe is always looking for the right guys to step in and straighten out the political kinks of the Price System. Maybe Joe doesn't know it, but he's got himself a long, long wait. In fact, there will be a lot of ice in the hot place before Joe is through waiting.

When you talk to most Joes, in regard to social problems, you are at somewhat of a disadvantage. Joe has a bushel basket full of platitudes and shibboleths that are covered with the thick moss of ancient history. In a short time, you wind up under them, bushel basket and all.

Joe is always pretty well satisfied with things as they are. 'It could always be worse,' is his ennobling philosophy. Joe has worn out a lot of belts, and developed his muscles, in the process of tightening them. (Maybe, that's why Joe has those wide shoulders and wasp waist.) Somebody should tell Joe to punch extra holes in the belt that he is wearing now; he's going to need them. Free enterprise has hung out the storm signals.

Most of the goof spoof is aimed at good old Joe. He is always blinded by the pickle smoke of the comparative differential in the standards of living, here and abroad. It doesn't take too much to top a Chinese coolie. What Joe has to learn to see is the artificial margin between himself and an abundance. As Joe goes, you go, Mr. and Mrs. American, no kidding. He does a lot of your thinking.

Pillars of Society

Who is this pompous person with the regal stride, now crossing the thoroughfare? That's easy. He's a member of our aristocracy. For convenience, let's call him Mr. Big—Biggie to his intimates. Mr. Big isn't exclusively the

guy with the overstuffed bank account. There are Biggies who lack the proverbial pot and the proverbial window that goes with it. Mr. Big is firm in that there must be special caste position and privilege. All of his thinking is fringed with baronial ermine. He is death on any form of social betterment that might encroach on the ancient racketeering rights of property status. The great mass of the people are the goofs to him. Throughout recorded history, he has stayed on top by firmly planting his feet on the backs of the goofs, whose selfsame backs have been the base of the social pyramid. We can see Mr. Big's point. If the goofs were to straighten up, he'd go the way of Humpty Dumpty.

Most Mr. Bigs are acclaimed as great benefactors of civilization. All we will say for this point of view is that it makes a swell bedtime tale. If Joe or Adolph were to suddenly take over here in America, it's a safe bet that a lot of the Biggies would switch national anthems. The ones that wouldn't run for the woods would stay to fill the flunky whip-cracking jobs. History has a way of repeating itself in some phases. Mr. Big does a heap of your thinking, Mr. and Mrs. American.

Interspersed among the mentioned fellow citizens, we see an assortment of parasitic vermin who swarm the decaying Price System carcass. They abide by their own special version of the social contract—take the next guy for as much as you can, and as often as you can; everybody is legitimate prey. These parasites range from the two-bit gyp artists up to their kin who fill the plush seats of Price System prestige with their well-cushioned tonneaus. Their principle is the same. The only difference is in the magnitude of operations. The less said about this element the better. The Price System has never been able to make any D.D.T. to exterminate this vermin. Instead, it offers them the best of environmental conditions on which to thrive.

Stand On Your Own Hind Legs

And, now, after a brief glimpse at

some of our fellow citizenry, where do the members of Technocracy fit in the picture? Technocrats are everyday folk, the same as you, Mr. and Mrs. American. They come from all walks of life. They don't set themselves apart as a specially anointed group, or a select clique of intellectual snobs. Neither are they park bench Utopian day dreamers. Technocrats are simply Americans who realize that the unique features of our physical environment call for a new blueprint of social design and operation here in North America. This design and operation will be a social synchronization with our scientific and technological achievement.

The die-hard lunkheads, who claim this is impossible and contrary to human nature, are unaware of the broad sweep of dynamic vision behind this new blueprint of social design. The potentialities for progression in a Technate reach out to the farthest horizons. In the matter of the human drama, scientific social engineering will remove it from the sordid, shabby stage props of the Price System, and put it in a setting where it can really start unfolding. Come what may, Technocrats, at least know in what direction they are going. *Do you, Mr. and Mrs. American?*

Technocrats do their own thinking within the framework of the social aspect of science and the scientific method. Any other type of thinking in this Power Age is not pertinent to the American social problem. The social aspect of science was first outlined by the founders of technocracy. This field of knowledge is broad and new. There is room in it for ever more Americans from all walks of life.

You, too, can think for yourself. Why let the other sap do it for you? Nine times out of ten, he comes up with the wrong answer. That's why this land is in the mess it's in now. It costs you plenty to let him get away with it. Think it over. Then, Join Technocracy!

Whenever a politician talks it's wise to be skeptical: when he is silent it's wiser to be suspicious.

Ten Commandments Of The Price System

f. o. b. Anywhere On Earth

By the Peripatetic Technocrat

In our last issue (copies available) we listed the entire Ten Commandments of the Price System. Evidence was presented to show how the Price System obeys its First and Second Commandments. In this issue we will show how the System lives up to its Third Commandment. This is: 'Keep subverting the law so as to extend and sanctify the concept of private rights over public property.' In the next issue we will take up the Fourth Commandment of the Price System.

What's Mine Is My Own

Once there was a man who had the sole possession and use of an entire island. It was rich in natural resources, fertile soil, forest, land, wild fruit and vegetables, fresh water and animal life. He found it easy to get a very good living from it. He lived alone on the island and had sole control of the whole area. Yet, this man did not own any property of any kind until another man appeared on the island. The first man's name was Robinson Crusoe and the second, whose appearance created Crusoe's property rights was called Friday. Property rights emerge only where there is competition for possession.

Stephen Pfeil observes:

The relation of ownership is not a relation between the man and the thing but between him and other men, whom he excludes from, and to whom he gives possession. Property is an 'exclusive' right and where there are no people to exclude, the right cannot exist.

There is no such thing as a natural or inherent ownership right to property. The 'right' to property is determined by whatever the rules of society may decide in any period. The 'right' consists not in the thing itself but in what society will allow the individual to do with the thing. 'Property, especially private property, is purely a social institution,' as Harry Elmer Barnes observes, 'which made its appearance relatively late in the experience of mankind.'

This is another way of saying that as the Price System of trade and commerce developed, the concept of private rights over public property grew and

became more dominant. In the hunting and fishing stage of culture the hunting territory and fishing waters were usually communally owned. Individuals owned their own weapons and tools. In the pastoral period of culture there was widespread communal ownership of pasture land while the ownership of flocks was largely vested in families rather than individuals.

It was not until agriculture appeared that there was any marked development in the concept of private ownership of land. In primitive society, on the whole, the rule was that movable objects such as weapons, tools, animals, etc., were considered to be private; while land, water, and other assets of the community not readily movable were communally owned and controlled. This division of the concept of ownership between real and personal property persisted down into medieval times.

It remained for the Price System, as it developed, to prostitute these concepts into the sacred cow that 'private property' is today. While doing this it invented out of nothing several abstract rationalizations to justify its prostitution. Among these are the phony idea that there is such a thing as an 'acquisitive instinct.' Also, it is claimed that the private 'right' to property is necessary to provide for bare needs of human subsistence. Then, we have the old standby argument that the 'right' to accumulate private property is necessary to stimulate initiative and efficiency. As is usual with most Price System rationalizations, the opposite of these is nearer to the real facts.

'Go To The Ant, Thou Sluggard—'

In regard to the 'acquisitive instinct'

it is held that this not only dominates mankind but is widespread among lower forms of life, such as insects, birds, rodents and apes. Ernest Beaglehole, an English psychologist, made a special study of this point and reported on it in his book 'A Study in Social Psychology.' He investigated all the evidence cited to support the claim of an 'acquisitive instinct' among birds, insects and animals. The evidence does not support the claim. Beaglehole states that among birds food accumulation is the exception rather than the rule. With respect to insects, he concludes that:

—such accumulating activity is far more reasonably and scientifically subsumed by an instinct of 'nutrition' or 'food gathering' than by an instinct of 'acquisition.'— The psychological origin of property is based on the mental and material appropriation of those objects which are necessary for the satisfaction of those specific instincts subserving the more fundamental needs of the organism.

Harry Elmer Barnes, in his book 'Social Institutions' states: 'the tendency to acquire and defend objects by insects, birds, and animals rests upon a complex set of drives (sex, nutrition, building drive, parental impulses) rather than upon any specific instinct of acquisition.' Barnes observes further that:

Beaglehole concludes then . . . that the resemblance between the acquisitive behavior of man and the other lower forms of life is wholly superficial. There is no organic, psychological, or historical link between the accumulating tendencies of lower forms of animal life and the acquisitive behavior of man.

Professor W. H. Hamilton, in an article on property in the *Encyclopedia of The Social Sciences*, states: 'A suspicious analogue alone enables man to find property in the animal kingdom.' Beaglehole does not stop at a disproof, he goes on to a correct social synthesis of the question. Barnes reports that he concludes that 'what we find in mankind is socially conditioned acquisitive behavior and not an acquisitive instinct.'

Professor Beaglehole finishes off the myth beautifully in this statement:

The dominant motives to wealth accumulation would thus seem to be prudence, the love of family, the desire for social esteem and invidious distinctions founded on wealth, and lastly, desire for power, and the aggressive control of others. The desire for economic goods, therefore, the response to the bribe of wealth, is always complex.

It is a value supported by a strongly organized system of sentiments and interests, the joint product of the interaction of impulse and emotion with the economic culture patterns of the material and social environment. So important, however, is this group patterning that it is hardly unfair to say that man is acquisitive because his environment makes him so.

New Incentives For A New Age

That's it exactly. And, the environment that has favored the conditioning to acquisitive behavior is the ancient and lousy Price System of Trade and Commerce. In regard to the imbecility that property rights are necessary to provide for human subsistence, Barnes observes:

But, to assure mere subsistence, private property has not been required. Communally held property has assured both subsistence and a considerable surplus over the bare needs of living . . . All we need do is to make it clear that private property is not essential to life, even in well developed societies. The vital necessity is to have the materials essential to life available for use by groups and individuals . . . Whatever can assure effective use of lands, tools and goods will suffice.

The old saw that private property is necessary to stimulate initiative, and efficiency, is likewise a hollow pretension. Barnes observes that:

The normal man wishes to rate well according to the standards and judgments which prevail in his society. When these standards and judgments are primarily related to property and money, then private property may indeed constitute a great impulse (Ed. Conditioned response) to effort. But, with a shift of such standards (conditioned responses) in society, monetary gain and status would have less potency . . . It should be made clear

that human effort can be stimulated by other motives than pecuniary greed . . . Social pressures may do quite as much as private property in stimulating effort and initiative.

Barnes cites the pride of workmanship, community spirit, interest in the public weal, and the striving for cultural and professional superiority as drives as powerful, or more so, than profit and property motives. He concludes:

Self-expression, prestige and superiority are powerful motives among mankind. Property is a strong stimulus only when social prestige and superiority rests primarily upon wealth. When other types of achievement confer comparable or greater prestige, they immediately become more powerful than property in stimulating human effort.

'Bigger And Better'

So much for these pet idiocies of the Price System. There is no more substance to them than there is to a moth-eaten old rag. Nevertheless, the Price System has extended and sanctified the concept of private rights over public property until today there is some form of ownership title attached to everything. It was not always thus. Once upon a time the Price System was almost half-civilized. Not that it ever functioned for the General Welfare, but there was a time when it was less corrupt than now.

There was a time when a law meant approximately what it said. But not any more. When Good Old Free Enterprise started, in real earnest, to ravish the North American Continent just after the Civil War something new was added to the old Price System. The law of the land, which men had learned over many generations to respect, after a fashion, was deliberately prostituted to extend and sanctify the concept of private rights over public property.

We do not want to give the impression that the Price System was once lily white but that recently it has been slightly tarnished by a few 'evil' capi-

talists. This line of thought might suggest that the way to restore its lily whiteness is to pass a law against the big, bad moguls who are corrupting it. Far from it. The American Price System has always functioned in favor of the blessed minority. The difference now is that it has crossed over the line that once delineated comparatively restrained operations into the shadowy realm of socially criminal activity protected by quasi-legal cover-ups. Anythink now goes and anything that 'goes' is 'respectable.'

This tendency of the Price System to become criminal and fascistic was, and is, inherent in its framework and Operating Rules. The reason it didn't come out so strongly before is that the System was still expanding and found it unnecessary. However, the germ was there. It was planted in the American Constitution by our founding fathers. A. W. Calhoun, in his book *The Social Universe*, puts it this way:

The United States Constitution was made by a convention of property interests for the express purpose of preventing democracy and with the positive aim of keeping the propertyless masses in subjection. The Constitution was designed as a framework of government to operate for the purpose of carrying out a supreme principle antecedent to the Constitution and possessing untouchable sanctity, namely, the sacredness of private property, which no government was entitled to infringe . . . All this is entirely natural for inevitably the central purpose of government must be to safeguard the economic system that prevails at the given time. Any other procedure would be suicidal. Consequently those that support the Capitalist system (Ed. Note: Price System) have no ground for objecting when government lends itself as a tool to the capitalist interests.

That's right. We are not objecting. We are illustrating how the System obeys its Commandments. If you don't like this ancient and lousy Price System, you can always join Technocracy and learn about a real system of civilized life that is possible now. But, let's get on with our story.

From the days of Thomas Jefferson down to the Civil War, the Constitution was never amended. Then came the three Reconstruction Amendments. One of these, the XIV Amendment, was 'originally framed and adopted to protect the civil rights of the Negroes in the South,' as Barnes says. It specified that no State could deprive any person of life, liberty or property without 'due process of law.' This amendment became effective in 1868. At this point Good Old Free Enterprise went to bat.

A campaign was started to get corporations included in the meaning of the word 'persons' in the XIV Amendment. The campaign waxed hotter and was crowned with victory in 1886. The Supreme Court unanimously decided to include corporations in its interpretation of the amendment and 'due process of law.' 'Due process of law' means anything the court wishes it to mean. The mere fact that any law is passed by due process of the legislative bodies doesn't mean a thing anymore. The Supreme Court can decide that the due process of legislation was not 'due process' at all. The 'due process' myth is a companion to the infamous 'Rule of Reason,' a still more abstract myth of the Price System. We'll go into these a little further on.

As W. H. Hamilton writes in his Encyclopedia article, the courts did not protect property so much as they gave the name 'property' to everything they protected. 'John Basset Moore, an authority on law, once stated that the XIV Amendment had given little protection to the Negro but had been extremely helpful to 'the corporation-nigger-in-the-woodpile.' From there on, Barnes observes, 'the property concept was widened by the courts to include anything the vested interests desired to protect.' The change in concepts that occurred following the Civil War is ably stated by Julius Henry Cohen, a distinguished lawyer, in his book *The Law, Business or Profession?*

Since 1860 a great change has come over our land . . . After the war (Civil War) a period of reconstruction, a period of commercial prosperity followed such as had never been

seen before. The brain and hand of the lawyer then became devoted not to the expounding of the law and the application of moral principles in decisions and legislation, but to the formulation of plans, schemes and contrivances for the commercial captains of the day. Not to the service of his country, but to the service of his client's enterprises the lawyer became dedicated. In and out of the statutes he crawled, seeking to find that which would aid his lord, the great commercial baron, to build up the great aggregations of wealth now dominant in this country. He was no longer a student in morals, he was no longer a great statesman, a great orator, a great patriot. He became the servant of his master.

Born Free And Equal

Oh, Well! you may say. 'It may be true that corporate enterprise sabotaged the XIV Amendment. Nevertheless, every man is equal before the law. We are taught that in school.' Oh, Yeah! What school was that, the little red school house built by the Price System to inculcate its myths into the up and coming generation? Listen to what an authority says about it.

In 1919 a study was published by the Carnegie Foundation for the Advancement of Teaching. It was entitled *Justice and the Poor*. The study was made by Heber Smith, a Boston lawyer, and later corroborated as accurate by Elihu Root, a former Secretary of State and distinguished lawyer, and Charles Evans Hughes, former Chief Justice of the Supreme Court. *Justice and the Poor* states in part:

The administration of American justice is not impartial, the rich and poor do not stand on an equality before the law, the traditional method of providing justice has operated to close the doors of the courts to the poor, and has caused a gross denial of justice in all parts of the country to millions of persons . . . Denial of justice is not merely negative in effect; it actively encourages fraud and dishonesty . . . The evil is not one of class in the sense that it gives the poor over to the mercies of only the rich. It enables the poor to rob one another; . . . The line of cleavage which it follows and accentuates is

that between the dishonest and the honest. Everywhere it abets the unscrupulous, the crafty, and the vicious in their ceaseless plans for exploiting their less intelligent and less fortunate fellows.

That is a part of the part the law plays in the Operating Rules of the Price System. This condition is a necessity to the maintenance of a properly corrupted Price System. It is a necessity to the enshrinement of private rights over public property.

Saga of the Founding Fathers

Harry Elmer Barnes observes in his previously quoted book:

A constitution is, quite literally, only a 'scrap of paper'—a document—which describes the framework of any particular government. It tells us, whether it will be a monarchy, aristocracy or democracy; whether there shall be executive or legislative leadership; what the powers of the government and the rights of the citizens shall be; and the like.

To this it might be added that any Constitution is a reflection of and bulwark to the prevailing economic and social system. It is a part of the superstructure of the Price System. A social system is not operated by words on a piece of paper. It is operated by (and reflects the operations of) the physical methods of producing and distributing goods and services. Those methods, at the time of the adoption of the Constitution^a were handicraft-agrarian in their nature. The Constitution could not help but reflect that fact.

Constitution worshippers we have always with us. We hope it makes them happy. However, it might be stated as a matter of fact that the American Constitution is technically illegal in its entirety. The Constitutional Convention of 1787 was illegal. Eight of the thirteen federated States refused to attend a Convention called in 1786. This was after the Revolutionary War. The Convention of 1787 was assembled by trickery. Even more, the delegates to it betrayed the instructions of their sponsors and superiors who had sent them.

Alexander Hamilton proposed a resolution at a conference in Annapolis in

1786 to the effect that there should be a 'revision' of the Articles of Confederation adopted in 1777. He specified that the proposed revision was only to make the Articles more 'adequate to the exigencies of the Union.' It was also stated that any amendments should be submitted to the States for approval.

Up to that time there was no Constitution, there was no central government, there was no President. The American Union was only a loose confederation of Sovereign States. Hamilton's resolution was adopted by the Annapolis Conference and sent to the several States and Congress. Then Congress issued a call for a Convention. Charles A. Beard states in the *Rise of American Civilization* that Congress phrased its call carefully:

—the convention was to be held for the sole and express purpose of revising the Articles; proposed amendments were to be submitted to the Congress and to the states for approval; *the letter and the spirit of the Articles were to be observed.* (Italics ours)

The Convention was held at Philadelphia in 1787. Beard states that 'more than half the delegates in attendance were either investors or speculators in the public securities which were to be buoyed up by the new constitution. All knew by experience the relation of property to government.' What happened? The delegates locked the doors and met in secret sessions. About the first thing they did was to ignore their instructions from their States and Congress and proceed to work out a National Constitution.

'There's Many A Slip—'

It took them nearly four months of closed meetings to do the job. But there she stands today, a strong bulwark for the Price System. Refinements (amendments) were added from time to time. However, the real meaning of the Constitution is not in that document at all. It is to be found in the interpretations handed down from on high by the Supreme Court. Influencing, determining and rationalizing the most anti-social of those interpretations are the two infamous ideologies: 'due process of law' and the 'rule of reason.'

Due process of law meant originally that legal and customary methods of legislation and the execution of legislation must be followed when the government deals with the lives, liberty or property of citizens. The court has distorted this principle by ringing it around with vague, philosophical ideas found nowhere in the Constitution. This perverted mess is then pontifically dished out as excuses to invalidate State and Federal legislation.

Professor Fred Rodell in his book *Woe Unto You Lawyers* states:

The 'due process' clause was originally intended to apply only to criminal cases. The idea that any statute, much less a non-criminal one like a tax or a regulation of business, after being properly passed by a legislature, signed by a governor, and enforced according to its terms by judges, could amount to a deprivation of anything *without due process of law*, would once have been laughed out of court.

Yet that is exactly what the Supreme Court has done. And, where did they get this un-American idea from? They got it from a bunch of 17th and 18th Century European philosophers. Yes, Sir, that's correct! Among these were Thomas Hobbes, Baron von Pufendorf, John Locke, Voltaire and others. These gentlemen sired the theory of natural law which spawned 'due process' and the 'rule of reason.' Thus we see that the philosophical hair-splitting of a set of late Medieval intellectuals is today firmly entrenched near the fountain-head of interference to social change in North America's technological civilization.

Out of Thin Air

Hobbes stated that, as Charles A. Ellwood, Professor of Sociology at Duke University puts it in his book *The Story of Social Philosophy*:

—there is in a state of nature what we might call natural right, which is simply the liberty of every man to do what seems best to him for his own preservation and for his own existence. There is also natural law, which is something different from natural right, since it implies the restraint of reason. Natural right is the absence of any impediment to the doing of that which

seems best for self-preservation; but natural law is a rule found out by reason, and reason forbids any act or omission unfavorable to self-preservation.

Baron von Pufendorf was a professor of natural law at Heidelberg University. He wrote extensively on this theme. Barnes writes that John Locke gave to the theory of natural law the 'particular "slant" that has made it of such great significance in legal history and business operations.' Locke taught that rights were natural and inherent in the individual. He placed the individual at the center of social and political organization and urged that Government should be limited to police powers. To him the major tenets of natural law were the sanctity of personal liberty and private property.

Voltaire wrote once:

God has implanted in us a principle of reason that is universal, just as he has given feathers to the birds and skins to bears. So man has a natural rationality, and this natural rationality, along with his natural sociability, assures man's progress, and is the promise of the final perfectability of human society.

They Knew A Good Thing

Barnes writes that:

This notion was seized upon by the rising capitalistic class, embodied in the constitutions that it wrote, and introduced into the jurisprudence that it fostered. Here we find the legalistic basis of the contemporary reverence for property, and the impregnable defenses that have been erected around it. Linked up with the power of the Supreme Court of the United States to declare laws unconstitutional under the broad concept of "due process of law" it all but removed private property from social control.

Roughly, that's how they did it. You will not find anything in the ideologies of natural law, natural rights, 'due process of law,' or the 'rule of reason' that affects the General Welfare of all citizens favorably. That's not the idea. This mess was all cooked up for the benefit of Good Old Free Enterprise. Since it thought up 'due process' the Court has ruled against the General Welfare so many times and in favor of

the blessed minority that it would take a book to list the cases. While you could put all the times it has ruled in favor of the people snugly away in your grandmother's thimble and have room to spare.

In 1911 the Court ruled that the Sherman Anti-Trust Law could be violated only by an 'unreasonable' restraint of trade. The 'rule of reason'

showed them that a reasonable violation was O.K. In other words, you may rape the lady as long as you do it reasonably. Anything is possible when you pick your guiding concepts out of thin air.

'Yeh, Verily! Thou must keep subverting the law so as to extend and sanctify the concept of private rights over public property.'

Down On The Farm

'A group of farmers in Champaign and Platt Counties, Ill., have kept records on corn production costs since 1920. During the period 1920-28 it took an average of 13.8 man-hours, 32.6 horse-hours, and 0.8 tractor-hours to produce an acre of corn—planting, cultivating and harvesting. In 1944 it required only 6.4 man-hours, 0.9 horse-hours, and 4.7 tractor-hours. Valued at 1944 rates an hour (man-labor 55 cents, horse work 30 cents, and tractor work 50 cents) savings amounted to \$4.07 for the labor costs and \$7.55 for power costs.

And the savings on producing a bushel of corn are even more striking. This is because of higher yields per acre, from 48.7 bushels in 1920-28 to 56.4 bushels in 1944. Despite the higher prices in 1944 for labor, power, and other things, these farmers produced a bushel of corn at only two-thirds the cost that they did in 1920-28. Further advances in corn production are almost certain to follow from even wider use of hybrids, greater use of fertilizer and increased mechanization. (*USDA Clip Sheet*, June 22, 1947.)

'The Dixie Beet Thinner will accomplish in an hour work equivalent to that done by eleven men in the same time. Will thin from 8 to 10 acres of sugar beets per day compared to one-half acre per day by man labor.' *'New Agriculture,'* August, 1947.)

'When the first cow testing association was organized 40 years ago, the cows under test produced an average of 215 pounds of butterfat a year. Now 1 million cows in dairy-herd-improvement associations are producing an average of 339 pounds per cow per year . . . Average butterfat production for the remaining 25 million dairy cows has increased by 30 pounds during the same period.' (*Agriculture Research Administration, USDA*, March 11, 1947.)

During the last 10 years the average yield of hops per acre amounted to 869 pounds. During this time the Oregon station of the Agricultural Research Administration has been experimenting with sprinkler irrigation. The practice has been extended to an estimated 5,000 acres in the Willamette Valley. Where used correctly sprinkler irrigation has increased yields from 25 to 40 percent. (Report of the Chief of the Office of Experimental Stations, *Agricultural Research Administration, USDA*, March 11, 1947.)

Gus Kister of Wooster, Ohio, has a world monopoly on a timothy seed cleaner. He is the only person in the world who can make the machines. He has built only 36 in the last 14 years. It takes him six weeks to make one machine and he gets a good price for each one. However, Gus says he is in no hurry to become a millionaire. (*Chicago Sun*, August 3, 1947.)

Flashes of American History

IX—An American Professor Brings the World to Our Doorstep

By Ben H. Williams. 8141-15

The steed called Lightning (say the Fates)
Was tamed in the United States.
'Twas Franklin's hand that caught the horse;
'Twas harnessed by Professor Morse.

An observer of American history, viewing in retrospect the two decades between 1830 and 1850 may discern therein the outlines of the approaching Power Age. Already steam power was being more and more extensively applied to water and land transportation and to varied factory operations. The second and more dynamic factor, electricity, was just emerging from the preliminary stage of laboratory research. Pioneer experimenters, such as Franklin, Oersted, Volta, Ampere, Faraday, Maxwell, Henry, and others, had been or still were trying to 'catch the horse' so to speak, preparatory to its being 'harnessed' by succeeding engineers.

Introducing The Hero

One of the apparent anomalies found in technological history is the fact that sometimes epoch-making devices are the work of inventors with little or no previous technological training. The electric telegraph is an instance of this kind. A chance conversation among passengers on a ship returning from Europe to America in 1832 suddenly introduced the hero of our drama in the person of a poor but promising professor of art—Samuel Finley Breese Morse—who for several years had been quietly perfecting his painting technique in some of the noted European studios.

Here is how Edward Lind Morse, the son of that distinguished American tells of the incident on board the ship Sully:

One night at the dinner table the conversation chanced upon the subject of electromagnetism, and Dr. Jackson described some of the more recent discoveries of European scientists—the

length of wire in the coil of a magnet, the fact that electricity passed instantaneously through any known length of wire, and that its presence could be observed at any part of the line by breaking the circuit. Morse was, naturally, much interested and it was then that the inspiration, which had lain dormant in his brain for many years, suddenly came to him, and he said: "If the presence of electricity can be made visible in any part of the current, I see no reason why intelligence may not be transmitted instantaneously by electricity.."

This 'inspiration of genius' was followed at once with rough pencil sketches by Artist Morse of a device showing nearly all the basic features of the electric telegraph. At the point of leaving the ship in New York harbor, Morse remarked to Captain Pell: 'Well, Captain, should you hear of the telegraph one of these days as the wonder of the world, remember the discovery was made on board the good ship Sully.'

A Multiplicity of Difficulties

But alas for 'inspirations'! They seldom lead immediately to practical results. And the story of Morse and his telegraph is 'tops' in the series of harrying life-histories of pioneer scientists and inventors. For twelve long years Morse labored on the details of this revolutionary device before he was enabled to make a public demonstration of the practicability of his invention. During that period he endured the direst poverty; ran into all sorts of mechanical difficulties; met the insolent opposition of enemies along with the lukewarmness and oftentimes the desertion of friends; and had ample acquaintance with the social ineptitude

of politicians, scientists, and other public characters. An observation on the side may not be out of place here: Morse was devoutly religious and sincerely believed that he was the chosen instrument of the Almighty to bring this great discovery to mankind. That belief, he declared time and again, sustained him through his frequent periods of near frustration, to final triumph. A modern scientist, with or without religious faith, may find similar consolation in reviewing the history of science and of the invariable triumph of the scientific method over similar difficulties.

An Artist's 'Incentive'

An incident in Morse's experience at this period may help to bring the picture into bolder relief. On his return from Europe with his big idea, our inventor found it necessary to continue making a living by teaching art. In his modest studio and living quarters, Morse carried on his labors, teaching his pupils and working as time would permit on his great device. One of his art pupils, General Strother, afterwards known in the world of literature under the pen name of 'Porte Crayon,' tells this story:

I engaged to become Morse's pupil, and subsequently went to New York and found him in a room in University Place. He had three other pupils, and I soon found that our professor had very little patronage. I paid my fifty dollars that settled for one-quarter's instruction. Morse was a faithful teacher, and took as much interest in our progress—more indeed than—we did ourselves. But he was very poor. I remember that when my second quarter's pay was due my remittance did not come as expected, and one day the professor came in and said, courteously:

"Well, Strother, my boy, how are we off for money?"

"Why, professor," I answered, "I am sorry to say I have been disappointed; but I expect a remittance next week."

"Next week!" he repeated sadly. "I shall be dead by that time."

"Dead, sir?"

"Yes, dead by starvation."

I was distressed and astonished. I

said hurriedly: "Would ten dollars be of any service?"

"Ten dollars would save my life; that is all it would do."

I paid the money, all that I had, and we dined together. It was a modest meal but good, and, after we had finished, he said:

"This is my first meal for twenty-four hours. Strother, don't be an artist. It means beggary. Your life depends upon people who know nothing of your art and care nothing for you. A housedog lives better, and the very sensitiveness that stimulates an artist to work keeps him alive to suffering."

Triumph At Last

Finally, after eleven years of harrowing experiences and of repeated frustrations, Morse, on March 3, 1843, found himself seated in the gallery of the U. S. Senate on the closing day of the session, anxiously waiting for that body to confirm the passage of a \$30,000 appropriation for an experimental telegraph line between Washington and Baltimore. The House had already passed the bill by a small majority. But without waiting for the Senate's adjournment, Morse in despair left the assembly at midnight prepared to abandon his great venture forever. Early the next morning he received a visit from a young girl, the daughter of a friend, who said she wanted to be the first to congratulate him. Morse was non-plussed until she informed him that his bill had passed at the last moment before adjournment.

The experimental line was completed following many mechanical difficulties, and on the 24th day of May, 1844, in his famous code of dots and dashes, Morse himself ticked off to Alfred Vail in Baltimore the first message in long distance communication by electricity in America. In line with Morse's religious devotion the message repeated these words from the Bible: 'What hath God wrought!' Vail ticked back the words from Baltimore at once, and 'the wonder of the world' had become a reality.

Thanks to the genius of this obscure artist with a large 'bump' of persistency, the cornerstone of instantaneous world-communication had been laid. The tele-

graph gave wings to railway development and efficiency of operation. But it went beyond the scope of the railway, quickly spanning the continents of the old and new world. It was followed in a couple of decades with ocean cables uniting the continents. Within 35 years came the telephone; a few years later the wireless telegraph; then the radio-telegraph; the radio-telephone; the radio proper; and finally, television.

Meanwhile, the application of electrical power to prime movers, secondary movers, and other mechanical devices was keeping pace with its use in communication. Our next 'Flash' will throw some light on this under the title 'An American Engineer Builds the First Electric Power Station.'

References: Edward Lind Morse, 'Samuel F. B. Morse, his Letters and Journals.' Sarah K. Bolton, 'Famous Men of Science.'

Americana

The total land area of the U. S. is about 1,905,000,000 acres. It is being used as follows: 1,500,000,000 acres for cropland, grazing, and pasture land; 94,000,000 acres are in deserts, swamps, and mountains; 87,000,000 are used 'for recreation and travel, made up of game refuges, railroads, highways, farmsteads, military lands, and similar tracts;' finally, there are 13,000,000 acres in cities and towns. ('U.S.D.A. Clip Sheet,' June 15, 1947.)

Almost 40 per cent of the land area of the United States receives too little rainfall for safe general agriculture, according to a Twentieth Century Fund survey, but only 3 per cent of this area is now being irrigated.

The Census Report on Agriculture for 1945 reveals that 12 percent of the farms in the U.S., 687,310 farms, harvested and marketed 53 percent of all food and fibre crops. The other 88 percent of farms, or 5,061,760 farms, harvested and marketed only 47 percent.

A twentieth Century Fund report shows that one third of the American people live in areas without public libraries.

It is estimated that in 1940 the total residential consumption of fuel for heating was about 5,038 trillion BTU. Of this amount, the useful heat was estimated at 2,382 trillion BTU or about 47 percent, the balance representing heat lost up chimneys. (From an article in *Public Utilities Fortnightly*, June 5 1947.)

'Sixty percent of the 115,000,000 miles of telephone wire in use in the U. S. is in underground cable. The North American Continent has 58 percent of the world's total mileage of telephone wire as of August, 1946.' ('Kellogg Messenger,' October, 1947.)

In March, 1945 a special committee was appointed in Massachusetts to study the liquor problem. After an exhaustive study the committee reported that for every dollar the state collected in liquor taxes it spent \$4.68 to take care of victims of this type of free enterprise. (*Labor*, June 21, 1947.)

'The underground water level is dropping fast in the Chicago area, Max Suter, engineer for the state water survey, testified at an Interstate Commerce Commission hearing today.' Suter stated that the water table is now at an average depth of 300 to 400 feet and would go down to 600 feet soon. (*Chicago Daily News*, May 15, 1947.)

...Question: Can people be happy or have a high standard of living if we do not stop floods? Answer: No. The loss of probably a billion dollars worth of soil in the recent river floods which can never be replaced gives point to Dr. Ward Shepard's new book "Food or Famine." He shows we must conserve our soil, forests, grasslands and mines or we will soon not have enough to eat or wear in abundant America.' Albert Edward Wiggam, D.Sc. in his column Let's Explore Your Mind, in the 'Chicago Daily News,' September 12, 1947.)

Skunks Are Skunks

Waste Is Good Business

By Clyde Wilson. R. D. 9140

'At the outset it must be recognized that the prevailing economic system within which the workshop must function is an increasingly wasteful system. Its wastefulness is due to the fact that it does not allow for primary direction or control in the interests of standards of living.' (Mary L. Fledderus, Research Associate of the Russel Sage Foundation, in "Technology and Livelihood," page 207).

By Their Works

It is characteristic of the Price System to conscientiously withhold efficiency for the sake of profit without any thought as to the results of such a process. Throughout the years the Price System method of operation has squandered our resources to such an extent that we are rapidly becoming a 'have not' civilization.

In 1945 the United States iron-ore mines produced crude ore totalling 106 million gross tons. Of this output 85 percent came from Lake Superior region. The Mesabi, largest of the six producing ranges, supplied 78 percent of the district total and 66 percent of the United States total. Recent reports show that the Mesabi Range is estimated to last twenty years at this rate.

Lyle F. Watts, Chief of the U. S. Forest Service, has stated that we are heading straight for scarcity as to timber within twenty years. Our trees are disappearing one and a half times faster than they grow. We waste 54,000,000,000 board feet a year. This is due to the fact that 'free enterprise' puts the almighty dollar before scientific planning and America. If Government controlled forest land can ward off the pressure of the politico-business operators of the Price System, it will be a wonder.

According to the Department of Interior, we are consuming oil twice as fast as we find it. With a reserve of 21,000,000,000 barrels of oil in the ground, we used up 1,700,000,000 barrels in 1945 alone. In 1946 the production of petroleum was 1,730,000,000 barrels. At this rate our petroleum supply will last

about 12 years. We have no less than 160 trillion cubic feet underground of natural gas. It is estimated that we use 4 trillion cubic feet of natural gas a year. Besides this, billions of cubic feet are wasted and burned off in flares every year.

In 1942-43 the 1,340 mile-long pipelines, Big and Little Inch, were built to carry oil and gasoline from the Southwest to the New York-Philadelphia area. Now that these pipelines are to be used to carry natural gas to the east, the coal and railroad interests have used every joker in the books to prevent their use. In Pennsylvania the State forbids stream-crossing permits to any but petroleum products and has held that natural gas is not such a product. It is not the concern of politics or business that about 2,000,000,000 cubic feet of natural gas is being wasted each day.

Business As Usual

About 1.30 pounds of coal are required to produce one kilowatt-hour of power. In 1945, 71,626,000 tons of coal were used by steam generating power plants. By installing a Continental Hydrology and Power Transmission System, we could conserve this amount of coal. By converting coal into gas at the mine, we could eliminate the cost of mining and of shipping coal. It is interesting to note that the railroads consume about 22 percent of the nation's coal production and derive about one-eighth of their revenue from hauling it. It is easy to understand, therefore, why these interests would work together to maintain such a lucrative racket.

Outside of monetary manipulations and waste of natural resources, business success can be attributed to selling obsolescence and turning out an inferior product for quick turnover and more profits. It is not good business to make things that last, although it is easier to do so. Business is not concerned with what effect this will have on our non-replaceable resources. It is now well known that corporate enterprise throughout the world entered into cartel agreements to maintain the status quo, to prevent the advancement and development of technology. The vested interests have done everything possible to prevent a comprehensive design, or even part of it, for a transportation, power, irrigation and conservation program on this Continent.

For years business interests have scuttled the St. Lawrence Waterway project. The Central Valley project has been sabotaged by seeing to it that it is to be used only for reclamation purposes. The Army Engineers have wasted the taxpayers' money by building levees on the Mississippi in an attempt to protect property rights. Witness the recent flood in the Mid-West, the worst in over a hundred years. Business enterprise has sold the physical wealth of America down the river, for the sake of figures on a piece of paper.

The Child Is Father To The Man.

The flow of energy is unidirectional and irreversible. It is the duty of all of us to see to it that our resources are converted in the most efficient manner, with a minimum wastage of non-replaceable resources. This is an inte-

gral part of Technocracy's design. In a Technate the social mechanism would be designed to operate at the highest possible load factor and efficiency. This, in turn, would mean a high standard of living for all Americans. The importance of this issue demands further investigation on your part as to Technocracy's scientific approach to the problem.

Technocracy's analysis of the North American Price System of trade and commerce has never been, and cannot be, refuted. However, Technocracy is not all analysis. It is not all a matter of exposing the stinks of this ancient and lousy system. After all, nearly everybody will admit that a skunk stinks something terrible. However, very few Americans know the way to take the stink out of the skunk that our social system has become. Here is where Technocracy shines. It has the correct answer.

In other words, the modern American problem is how to remake our ancient Price System into a system controlled and operated by scientific laws for the benefit of all. It can be done, and Technocracy knows how to do it. Technocracy is the only Organization on this Continent that has this information. It knows how to organize a social system on this Continent that will 'allow for primary direction or control in the interests of standards of living.' If you think this claim is preposterous the best and only way to disprove it is to join Technocracy and expose it from the inside. The door to the New America is wide open.

How about it, Mr. and Mrs. America?

Parity Means Scarcity

At the beginning of September, 1947 the Federal Government had nearly 160,000,000 dozen frozen and dried eggs in 'surplus' storage. At the same time the market price of eggs is at, or near, the highest point in history. These eggs cannot be sold in this country because of legal price protection to the industry. They cannot be given to the Army for relief purposes in occupied zones, except

at 100 percent of the parity price. While the State Department is looking everywhere for cheaper food for European relief these eggs cannot be transferred to that purpose. The law says NO! The parity law that prohibits use of these eggs is but a reflection of the basic Price System law that goods and services must always be kept scarce enough to command a nice PRICE.

The Technate of North America

Here are the latest population figures for the Eminent Domain of the New America. The area included in the Technate was in a map on the back cover of the November-December, 1947, 'Great Lakes Technocrat' (Research Committee 8741-1).

Populations	Present Countries	Date & Source*
134,000	Alaska	1945 (UN)
34,500	Bermuda	1945 (UN)
1,929,100	British West Indies	1945 (WA)
12,307,000	Canada	1946 (WALM)
10,098,000	Colombia	1946 (CC)
772,000	Costa Rica	1945 (UN)
4,779,000	Cuba	1946 (UN)
124,900	Curaco	1945 (UN)
1,970,000	Dominican Republic	1945 (SY)
1,997,000	El Salvador	1944 (GPO)
18,400	Greenland	1946 (UN)
3,546,600	Guatemala	1938 (SY)
376,150	Guiana, British	1945 (UN)
191,600	Guiana, Dutch	1946 (SA)
37,000	Guiana, French	1944 (SY)
3,000,000	Haiti	1944 (SY)
744,000	Hawaii	1937 (WALM)
1,201,000	Honduras	1945 (UN)
59,200	Honduras, British	1945 (UN)
5,000	Labrador	1946 (SA)
570,000	Martinique and Guadeloupe	1940 (WA)
22,753,000	Mexico	1939 (LN)
313,000	Newfoundland	1946 (UN)
1,082,000	Nicaragua	1943 (WALM)
878,000	Panama	1945 (UN)
44,700	Panama Canal Zone	1945 (UN)
2,083,000	Puerto Rico	1945 (SY)
4,200	St. Pierre and Miquelen	1944 (SY)
16,500	Samoa	1945 (SY)
558,000	Trinidad and Tobago	1945 (WA)
144,311,000	United States	1947 (USC)
4,400,600	Venezuela	1946 (UN)
25,000	Virgin Islands	1940 (USC)
220,163,500	Technate Total	

*UN—United Nations. July. 1947.

WALM—World Almanac. 1947.

SY—Statesman's Yearbook. 1945.

SA—South American Handbook. 1947.

USC—US Census Bureau. August. 1947.

WA—Whitaker's Almanac. 1947.

CC—Canadian Census Bureau. 1947.

GPO—US Government Printing Office. 1945.

LN—League of Nations. 1941-42.

From the Camera's Eye View

Have You Discovered America?

'Behind All These Men . . .'

When the Turks captured Constantinople in 1453 the overland routes to India and the East were interrupted. This made it increasingly difficult for the free enterprisers of that day to get luxury products from the East for resale to the Nobility of the West.

At that time the Renaissance was getting under way. Feudalism was decaying, and commercialism rising. The advance of science and technology paced the Renaissance. Among the outstanding developments of the time were the printing press, the compass, and the improved astrolabe. The first stimulated the spread of knowledge. The other two made far offshore navigation practical.

To put two and two together, the accumulated force of these events ripened to produce a still greater event. Christopher Columbus talked himself into a sponsor and set out to discover a sea route to the East by sailing west. Instead, he discovered America, in 1492. That was over 450 years ago. Yet, to this day the people of North America have not yet discovered America for themselves.

To all intents and purposes they are still rooted in the culture of late Medieval times. All around them lie the physical realities by which they live. Science and technology advance on every front. People remain fixed in the dead past. This pathology of social stasis is the product of ages of conditioning by the ancient Price System of Trade and Commerce.

It is this system handed down from the dead past that obscures the living present and the potential future. Science and technology have forged a new culture in the land that Columbus discovered. It ties this Continent together like the steel rails in this picture. No matter where you go in North America you can find technology. It grows more potent all the time. On the other hand, the Price System grows constantly more futile and senile. Today, its decaying institutions obstruct the highway to the New America of Tomorrow. The accumulated force of these events is overripe for the production of a still greater event. A major social change impends.

Photo: John A. Roebling's Sons Co.





Photo: Standard-Vacuum Oil Co.

By sailboat it took around 60 days to get to America. The first settlers came here for a variety of reasons: political, economic, religious. To boil it down the basic motive was a search for more opportunity and security. In other words, they were looking for more goods and services than the Price System of the Old World could provide. Only a minority found what they came for. 'The dream that was America' never came to life for the great majority. This is because the 'founding fathers' brought the same Old Price System they were fleeing from along with them to the New World.

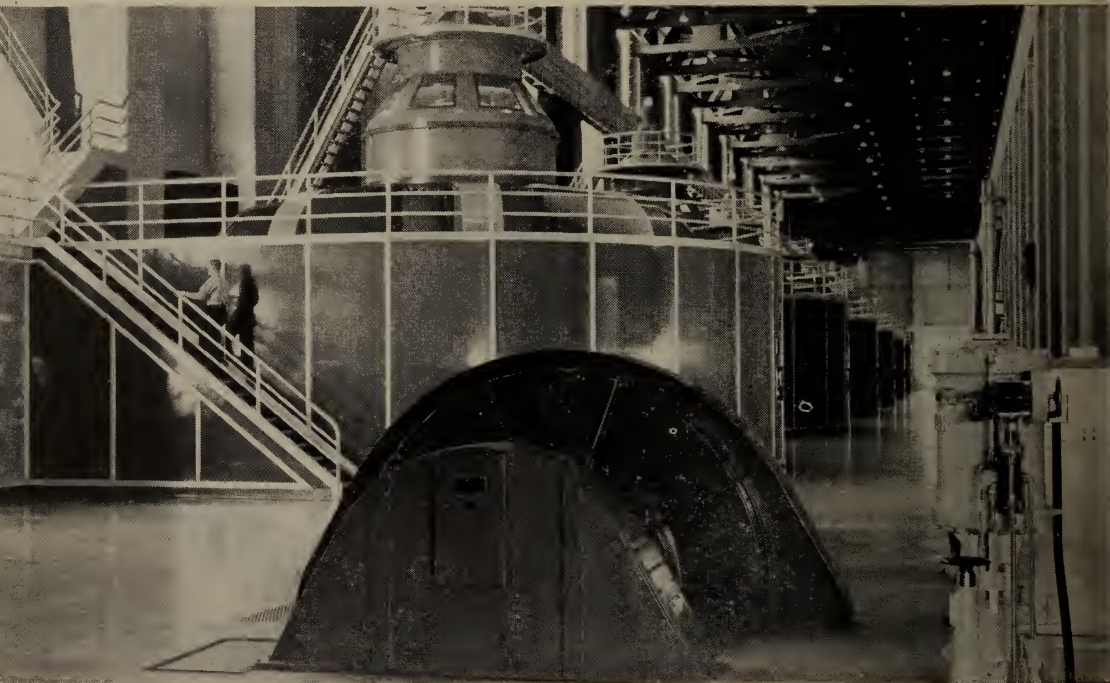


Photo: Bureau of Reclamation

Do you understand? No? Well, let's take it a little further. Here is the generator room at 'Hoover Dam.' At full operation these generators have an output of almost 1,000,000 hp-hours of energy, equivalent to the workpower of about 10,000,000 able bodied men. When the Mayflower landed at Plymouth, Mass., it had 41 able bodied men aboard, or a total of about 4 hp energy. These 41 'Pilgrim Fathers' signed a 'solemn compact' agreeing to enact and abide by laws and ordinances for the 'general good.' Their hearts were in the right place, but they didn't know their thermodynamics.

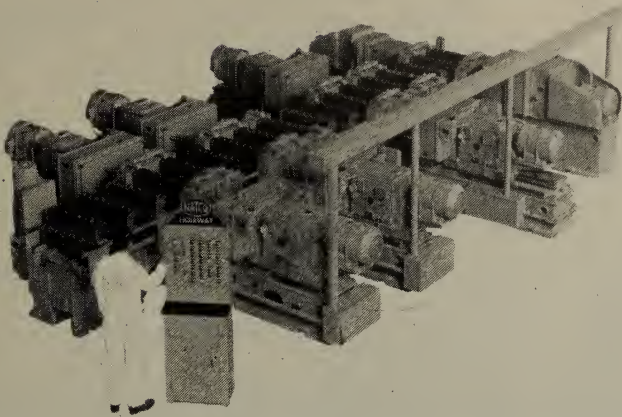


Photo: National Automatic Tool Co. Inc.

The 'general good' can never be realized by 'solemn compacts' arising from political and moral idealisms in any system of natural or artificial scarcity. The 'general good' and scarcity are incompatible; they repel each other. What is needed is more horsepower of energy, plus technology. Here is a sample. This machine produces 90 engine blocks per hour with one operator. It automatically advances the blocks in 19 stations, clamps and unclamps them in each position, synchronously performs 66 operations as block travels through machine, then ejects the finished job onto a roller conveyor.

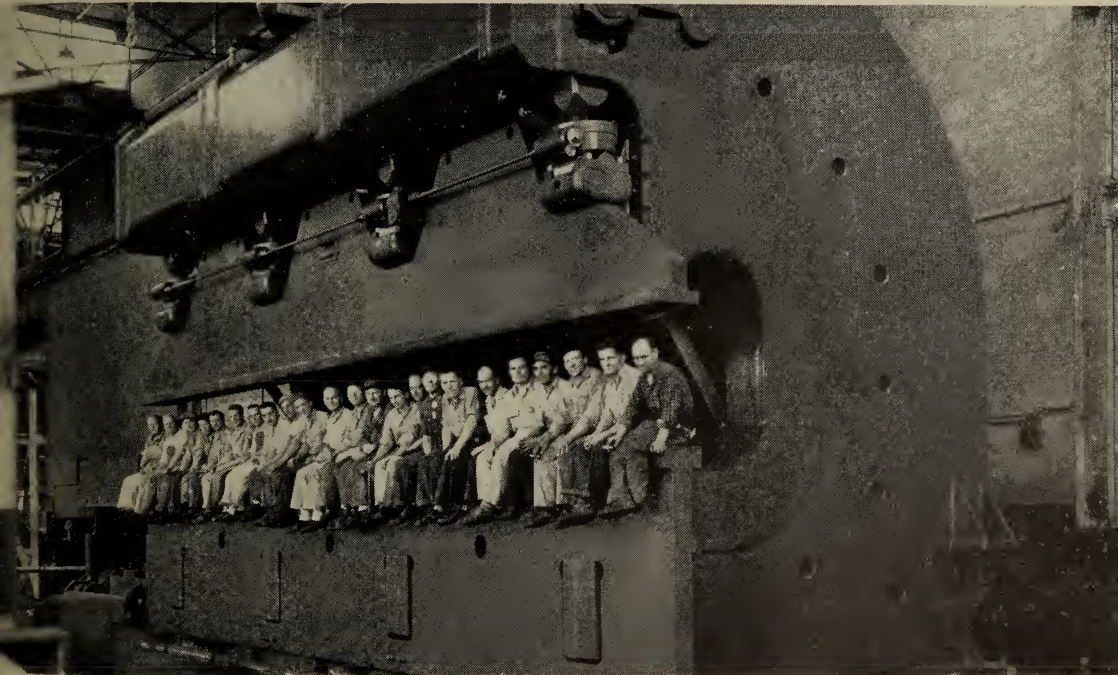


Photo: Warren City Mfg. Co.

Here is another example of how the 'general good,' i.e. abundance, security, and equal opportunity for all can be realized. That is, the principle is the same. This is the world's largest press brake, 500,000 lbs.; the fly wheel alone weighs 5 tons. Press brakes are used for notching, crimping, rolling, bending, forming, flanging, and multiple punching of sheet metal. This one bends 5/8th" sheet steel up to 36' long, and delivers a 1,000 lb. stroke at the rate of 15 per minute. It's controlled by push-buttons. It doesn't operate by 'solemn compacts' but by technological principles.

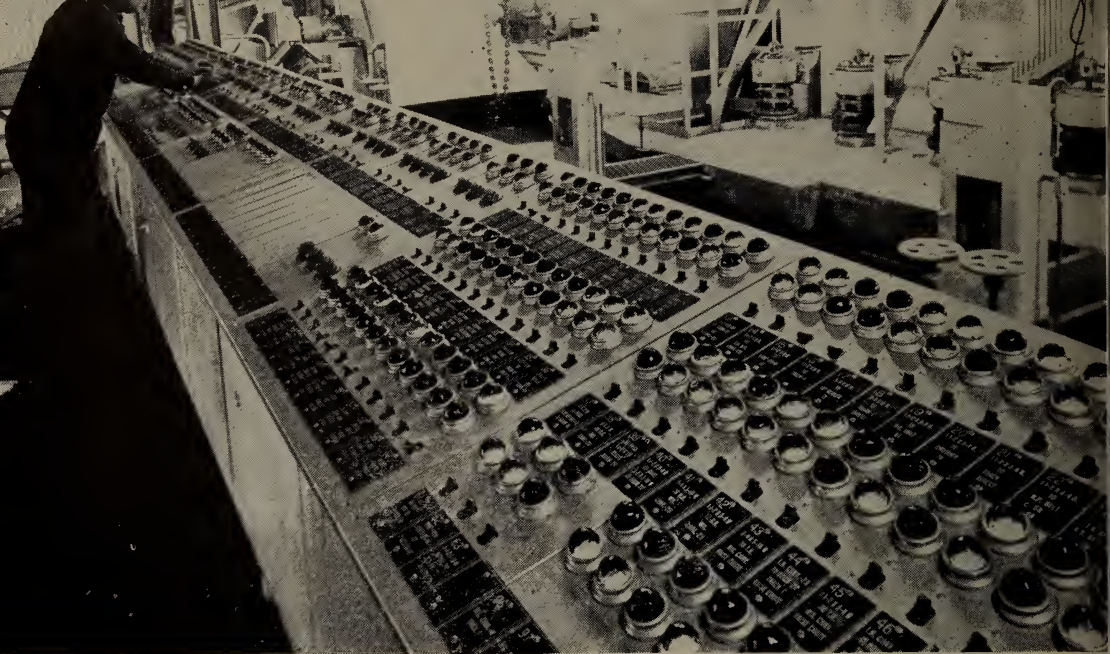


Photo: Peabody Coal Co.

The point is not that we want to belittle anybody's humanitarian motives, but 'solemn compacts' are futile in the face of physical facts. It takes power, machines, technology, and precision controls to do a job in the social field as well as the industrial. Here's some real control. It's the push-button panel of a completely mechanical coal refinery operated by one man. Plant dedusts, removes foreign matter, washes, rinses, sizes, dustproofs coal in one continuous operation. Ninety motors totaling over 1,000 hp operate in sequence to govern and energize the process.



Photo: Columbus McKinnon Chain Corp.

The ad with this picture said 'You can see for yourself they are safe. That's a good slogan to apply also to the chain that science and technology have forged in North America. It is the only safe thing the people have left to rely upon. Perilous times are ahead: a major social change impends. The trend of events dictates this, not Technocracy. However, Technocracy is the only Body of Thought that is preparing for this event. It's the only safe Body of Thought the North American people have left to rely upon. It's a safe bet that Technocracy is correct.'

From the Camera's Eye View

The Tie That Binds

Operation Technet

Functional Technocrats will go a long way out of their way to advance the Body of Thought called Technocracy. That is exactly what the five Members in the picture below did. Reading from left to right they are: Lois Palmund, Sherman Peterson, the driver, Irma Levine, Sidney Levine, and Allan Klinger. The picture was taken in front of the Chicago Section of Technocracy about 4 p.m., November 13, 1947. Peterson is a Member of Section 3, R.D. 12247, Seattle, Wash. The other four are Members at Large in New York City. All five are now in Seattle; and thereby hangs our tale.

Before the latest holocaust to make the whole world safe for Price System democracy the Organization of Technocracy had a network of amateur, short wave, radio stations called the Technet. The idea was to be prepared to render assistance to civil authorities in the event of any local, regional, or national disasters, whether caused by Acts of God or man. During the war, of course, amateur radio was banned. After the war the Technet started up again. A chain of stations was reestablished up and down the Pacific Coast. However, at Seattle there was none. This blank had to be filled in.

The equipment and personnel to do the job was found on the other side of the Continent at N. Y. City. The problem was how to get both to Seattle. Since Technocracy is a non-profit, non-commercial Organization it had to be done voluntarily. In response to this need five Technocrats set out (on their own) to drive from N. Y. City to Seattle, with a car and trailer loaded with personal belongings and the component parts and test equipment for a 1,000-watt transmitter. Bad luck dogged the venture almost from the start. The outfit had three major breakdowns and a lot of minor trouble. They left N.Y. October 29 and arrived in Chicago November 5th, taking a week for what is two days of normal travel. Five Technocrats started out from N.Y. but only four reached Chicago. The less said about the fifth one the better.

Ten miles east of Gary, Indiana, the biggest breakdown occurred. The four shown in this picture came on into Chicago via interurban line. The fifth Technocrat stayed with the car and trailer, supposedly to superintend repairs for resumption of the journey. Where do you think these four Technocrats headed for in Chicago? They beelined it to section 1, R.D. 8741, of course. By this time they required a little assistance to continue the trip. The expense of the breakdowns, plus extra travelling costs had eaten a big hole in the debt certificates. So, they figured to stop over in Chicago for awhile, get a job to replenish the treasury, get the outfit repaired properly, and then resume the journey. However, the fifth Technocrat had different ideas. The less said about him the better.

Techphoto by Spivak



Mountains of Difficulty

The Chicago Section was tickled pink by the occasion. Arrangements for housing, etc., were made at once. Sid and Allan hustled out and got a job the next day. Irma and Lois kept the home fires burning at the Section, which became headquarters for Operation Technet. Long distance calls were made to Seattle for conference and assistance. At first it looked as if every Technocrat in Seattle had gone off to Alaska. Nothing seemed to click. Then it was decided to pull the trailer into Chicago. The boys drove out to Gary with a Chicago Member to get it. When they got there the trailer was found abandoned, but intact, in an open parking lot alongside a gas station and garage. The fifth Technocrat had taken the car (it was his bus) and decamped back to the banks of the Hudson River without even calling up the Chicago Section to notify the other four.

After this debacle plans were made for a longer stay at Chicago to earn more money so they could ship the radio station to Seattle and continue the trip by bus. However, this plan was a dud because it left the Seattle Technocrats out of the picture. It seems they hadn't all gone off to Alaska. On November 8 the Section phone rang. One of the girls answered it. Section 3, R.D. 12247 was on the wire to inform them that Sherman Peterson had left Seattle at 10:30 P.M., November 7 to pick them up in Chicago.

Driving the northern route Peterson arrived in Chicago at 6:30 P.M., November 12. The speedometer showed over 2,000 miles. The next night the whole bunch left Chicago. The Section seemed empty and lonesome for awhile. The picture below shows them checking over and arranging the contents of the trailer. After dark, with a wave and a Salute they were off. A letter was received from them from Salt Lake City dated November 16. A few excerpts are as follows: 'In Nebraska in the midst of a heavy snowstorm we blew a tire . . . coming over the pass near Cheyenne the fan belt broke . . . the mountains in Wyoming were pretty bad. Lots of snow and the roads were icy . . . the weight of the trailer is pretty hard to control.'

What is a four thousand mile drive with Winter setting in across the land? What is a four thousand mile drive over icy mountain roads and snow covered plains, merely to pick up a bunch of Technocrats with a radio station? It is only a jot, a tittle, something less than a quantity subtracted from nothing. What does it amount to when you break up your living patterns on one side of this Continent and venture to the other side merely because one of the biggest things you want is to advance Technocracy? It's hardly worth mentioning, something less than a cipher wrapped up in a zero. It's a funny thing. Some people just mock. Others mock at difficulties.

As we said before the group is now in Seattle. Section 3, R.D. has what it takes for a new station in the Technet. The tie that binds reached out and spanned the Continent from ocean to ocean. This is only a beginning. It is well sometimes to tell ourselves that Technocracy was born but yesterday. It is at the starting point of its functional life; while the Price System is stumbling down its last, long mile to oblivion. Operation Technet wrote a bright, new chapter in the history of Technocracy. The less said about some things the better. But, the more said about the spirit that moves mountains when mountains don't want to be moved the more those mountains of difficulty will have to move, in the long run. **TECHNOCRACY MARCHES ON!**

Technphoto by Spivak





Techphoto: Medina Photo Studio

Technocracy uses non-commercial methods to advance its Body of Thought. These are not advertising, but symbolization. One method used is a uniform painting of Member's cars in Technocracy Gray. This is done at the Member's expense, on a voluntary basis. Motorcades of Gray Cars are organized from time to time to make an impact upon people. This one, assembled from Cleveland, Akron, and Kent, Ohio Sunday, October 19, 1947, travelled 100 miles. It visited Nelson's Ledge's, Ravenna, Kent and Cuyahoga Falls. Police escorts were used through towns.



Techphoto: Medina Photo Studio

Here the group is assembled before the Kent Section where a meeting was held to make plans for the next Motorcade. A collection was taken up to help defray expenses. Even the police escort threw in a dollar. After devoting all day Sunday to Symbolizing Technocracy the tired, hungry but happy Technocrats went together to a large restaurant to eat and, what was just as important, symbolize Technocracy some more. After all even a hobo can eat if he goes after eats. But it takes a competent citizen to symbolize Technocracy. It also takes a Technocracy Gray Suit.



Techphoto: Medina Photo Studio

Symbolizing Technocracy will be a continuous operation until the ancient and lousy Price System is no more. Here's another Motorcade that assembled from Cleveland, Akron, Kent and Ashtabula, Ohio, Sunday, November 2, 1947. The float brought up the rear. It went through East Cleveland, Euclid, Wickliffe, Willoughby, Mentor, Ashtabula, and Geneva, Ohio. Police escorts were provided and car-top mounted loud speakers announced forthcoming Technocracy events. This Motorcade covered 150 miles advancing the Body of Thought called Technocracy.



Techphoto by Lester Miller

Another way that Technocracy is symbolized is by Highway Signs. Here's one standing alongside a road in the Portage Lakes District, near Akron. It's setting on temporary supports before permanent erection. The sign is done in seven colors and the Monads are in aluminum and red. The two-sided design catches the motorist's eyes from both directions. A bus line stops right in front of the sign. Should an alert, competent citizen happen to come this way and see this sign he'll never be the same again. Technocracy stands for the New America. This is the tie that binds.

The Scrap Iron Is Back

The following poem was written as the first war dead to arrive in America were unloaded at Oakland, Calif. It was written by J.C.B. and appeared in 'The Dispatcher', a newspaper of the International Longshoremen's and Warehousemen's Union (C. I. O.). (As printed by Local 600's 'Ford Facts,' November 1, 1947.

They didn't want to load it ten years ago, but
The shipowners said they had to do it;
The arbitrator said they had to do it;
The State Dept. said they had to do it.
I'll always remember the longshoremen said
That scrap iron will come back some day
In the bodies of American boys!

I was there as the first two coffins touched American soil,
Lowered by a groaning winch in a drizzling rain,
Draped with flags by soldiers at stiff attention,
Shoved to a jitney train by white-capped dockers.
I'll always remember the longshoremen said
That scrap iron will come back some day
In the bodies of American boys!

The brass stood around, the movie cameras ground,
Clarence Phillips said: 'I loaded this scrap iron ten years ago.
'I had the feeling it was coming back, only thing I didn't know,
'Was that I would unload it, too.'
I'll always remember the longshoremen said
That scrap iron will come back some day
In the bodies of American boys!

The guns boomed in salute, airplanes hummed and the jet planes whooshed,
For honor to seven hundred and fifty tons of dead weight.
Five hundred pounds to a casket,
Times three thousand and twenty-eight, some
From Pearl Harbor where the scrap iron sprayed
In the attack some men knew would come . . .

Maybe the dead deserved the pomp that swayed men's emotions and
Produced the tear in a mother's eye, maybe so and maybe no.
Maybe the dead would have chosen otherwise, slipped in quietly.
And maybe if they spoke, they might have asked:
'Boom these guns in memory and honor, as you say, or
'Boom they in portent of what we died to avoid?'
I'll always remember the longshoremen said
That scrap iron will come back some day
In the bodies of American boys!

'Our debt merchants have been extremely diligent in the last few years in the profitable enterprise of supplying Japan with most of its oil, most of its nickel, cotton, pulpwood, sulphur, and other necessary raw materials and manufactured products . . . if America becomes involved in a war with Japan we can console ourselves that we at least have given her something to remember us by—American materials will come back to us, done up in Japanese wrappers that won't be so pleasant, in fact, they won't be bouquets.' (Howard Scott, Director-in-Chief, Technocracy Inc. in 'Technocracy' magazine, Series A. No. 4, (October, 1935.)

Primer of Technocracy

When The Price System Collapses

By A. Himmelstein, 8741-1

Events Cast Shadows Before

There is going to be another depression. That is as certain as you are reading this article.

1. When is it going to come?
Events will determine that.
2. How bad is it going to be?
It is going to be much worse than anything we've ever seen—or ever thought we could see.
3. How will it end?
It may end with the complete collapse of our present system.
4. How does the writer know all this?
well, that's a longer story.

During World War I, there was formed a group of men whose task was to make a survey of the nation's resources, machinery, material wealth, and productive capacity. This group later became known as the Technical Alliance, and from it emerged Technocracy Inc. Because of the nature of their work, involving physical trends, production in the various industries and all phases of economic activity, these men were able to predict the last depression within three months, as far back as 1921. Everyone laughed at them, but you know what happened.

There are those who will laugh at this prediction, just as there were those who laughed in 1921. Some people live and learn. Others just live. But whether we regard it with laughter or its due consideration, the facts aren't going to change. The depression is coming. The complete collapse of the Price System may come with it. Both are inevitable in the long run.

You may ask at this point: 'But what has Technocracy got to do with the depression?' or, to get even more to the point: 'What or who is Technocracy?' As was mentioned before, Technocracy emerged from the Technical Alliance. In this latter group, there were men who not only surveyed our nation's

economic activity, but who also saw how inefficiently it was managed and what had to be done to improve it. So these engineers, top men of industry, and technicians drew up a design of a new social system. This, they called Technocracy; 'techno' from technology meaning the science of industry and 'cracy' from 'kratos' the Greek word for government. Hence 'a government of industry.'

The basis of this design is that our lives are fundamentally physical, not political, and therefore our social order should be such as to render the greatest physical progress and not be founded on nonsensical political abstracts. To illustrate this idea of a government of Technology, let us use the Bell Telephone System as an example:

Character of Technology

What are the characteristics of this telephone organization? The *Technocracy Study Course Book* says:

1. It maintains in continuous operation what is probably the most complex inter-connected array of physical apparatus in existence.

2. It is dynamic in that it is continually changing the apparatus with which it has to deal, and remoulding the organization accordingly. Here we have a single organization which came into existence as a mere handful of men in the 1880's. Starting initially with no equipment, it has designed, built and installed equipment, until now it spans as a single net work most of the North American Continent, and maintains inter-connecting long-distance service to almost all parts of the world. All this has been done with rarely an interruption of 24-hour-per-day service. The organization itself has grown from zero to 300,00 people.

3. That somehow or other the right man must have been placed in the right job is sufficiently attested by the fact that an individual on any one

telephone in that city at any hour of the day or night, and in all kinds of weather, with only a few seconds of delay, or that a long-distance call can be completed in a similar manner completely across the Continent in a mere matter of a minute or two, is ample evidence that *the individuals in whatever capacity must be competent to handle their jobs.*

Were these individuals appointed to their position by election or any other political procedure? No! Did the Republicans run one candidate for chief engineer, while the Democrats ran another? No! Would the system be more or even as efficient as it is today if it had been run on a political basis? You answer that.

The question then is: 'How is the right man found for the right place?'

As was stated before, the fitting of the man to the job is not done by election or by any one of the familiar political procedures. The man gets his job by appointment, and he is promoted or demoted also by appointment. The people making the appointment are invariably those who are familiar both with the technical requirements of the job and with technical qualifications of the man. An error of appointment invariably shows up in the inability of the appointee to hold the job, but such errors can promptly be corrected by demotion or transfer until the man finds a job which he can perform. This appointive system pyramids on up through the ranks of all functional sub-divisions of the system, and even the chief engineers and the operating vice-presidents attain and hold their positions likewise by appointment. This is the basis on which the new social system will operate.

It can be said, therefore, that Technocracy is not democratic, autocratic, communist, socialist, dictatorial, or any other of these political terms. It is simply a system designed to operate the North American Continent on the same basis as an industry is run. Just as the Bell Telephone System has its branches of repairmen, operators, engineers, etc., each with a foreman over a group of workers, a supervisor over a number of foremen and so forth, un-

til the apex of the pyramid is reached, so the entire North American Continent would be operated with all workers within the pyramid, each at his own level and his own branch, but all working together. And just as in the Bell System, each operator doesn't own her own switchboard, each engineer his own machinery and each repairmen his own telephone pole, so in the Technate everything will be centrally controlled and managed with the goal set at good performance, highest efficiency, and as much production as we can possibly consume.

Precept and Example

The reader may at this time say: 'This is all very well, but *how* does Technocracy intend to come into power? How many members does it have? What candidates is it running for what offices?'

To answer these questions:

1. Technocracy is not a political party. It is not on the ballot, and it does not have people running for offices.
2. The writer does not know how many members the organization has. what is more, he isn't very much concerned.

When there is a football game at Notre Dame, there may be an attendance of 85,000. However, there are only about 35 policemen put to the task of directing this crowd. Yet, with a ratio of more than 2,000 to one, the crowd is safely moved into the stadium, order is maintained, and when the game is over, all are safely out within half an hour.

This analogy also applies to Technocracy's position. When the Price System collapses, Technocrats will only be a minority, perhaps in the same ratio as the policemen to the football fans. But being that, their only purpose will be to point the way to a new and scientific system; they need not be a tremendous organization embracing more voters than any other party, just as there need not be more policemen than there are fans.

When this inevitable tremendous depression comes, there will be a crisis of such magnitude that the new system will have to be adopted regardless of how it is done, whether by the President declaring a state of national emergency or any other means. When people are hungry, homeless, and in dire want, they are not going to allow food to be dumped into the ocean to bolster prices, homes to be vacant because they can't pay the rent, and machines to remain idle because of a cockeyed economic system. History has shown that when a movement starts, it never does so in large numbers. When the people are oppressed, they will come to it enmasse. The right idea at the right time will win.

It is true, of course, that the more members Technocracy has and the more

Technocracy is heard of, the easier will be the task of bringing about the new age of abundance and plenty rather than the present one with its restricted production and artificial scarcity. It also means less pain, chaos, and suffering when the crisis comes and the new way is needed. For these reasons, Technocracy is always striving to increase its membership and educate more people as to what it is and what its purpose is.

Why not join Technocracy and learn more about it. After becoming a member, you get the privilege of joining a free Study Class. The material presented cannot be bought anywhere in the Price System. It will make you one of the best informed American citizens. It is well worthwhile. Join Technocracy, NOW!

'Good Old Free Enterprise'

'As the housing shortage continues, its character has shifted from an acute to a chronic phase. The number of families with literally no roof over their heads has decreased. The number of park bench, automobile, hallway, and barn dwellers has been reduced. However, there has been an increase in the number of families doubled or tripled up, in the number inhabiting unsafe or insanitary quarters, wedged into hotel rooms, trailers and tourist cabins, or making down payments on houses which they cannot afford and which they will lose in the next recession. These are the symbols of chronic housing shortage.' The Federal Reserve Bank of Chicago in its monthly report on business conditions. (As quoted in the 'Chicago Tribune,' May 13, 1947.)

Mrs. Bessie Gilles Sincos, 38, was found dead in a woods near Milton, Pa., where she and her husband had been living for three weeks without shelter. The couple was discovered by a State Policeman. The doctors said that Mrs. Sincos died after a heart attack brought on by malnutrition and exposure. (Warren, Ohio, 'Tribune Chronicle,' October 7, 1947.)

Elmer Meredith, 63, was discovered lying in a shack in the city dump, too ill and weak to move. 'He was half starved when we found him and I don't think he had any water to drink for several days,' said George Taylor, assistant custodian of the dump who discovered Meredith. 'He kept repeating, "Come and help me, George,"' reported Taylor. The police said that Meredith's legs had been 'horribly chewed by rats,' which the man was too weak to fight off. They removed him to City Hospital where his condition was reported as 'fair.' Police later discovered that Meredith has a son living in Warren. (Warren, Ohio, 'Tribune Chronicle,' September 6, 1947.)

A recent study of representative local rent boards showed that 41 percent of the members were business men. Of these 11 percent were in the real estate business, 20 percent were merchants, corporation officials and the like, 5 percent were bankers, and 5 percent were lawyers. (Gerry Robichaud in his column 'Inside Washington' in the 'Chicago Sun,' October 20, 1947.)

Dictionary of the Price System

A Word A Day Keeps The Fog Away

H. V. Wilkie, 8342-1 and GLT Staff

TOLERANCE—The pretension that ideas in opposition to your own are not nonsense.

FREE SPEECH—The inalienable right to expose the other fellow's ignorance in public.

LAND OF THE FREE—A country in which you are free to chase life, liberty and happiness to your heart's content.

DOLLAR—The permit you must have with which to chase the above items successfully.

HOME OF THE BRAVE—That little item most of the brave are still hunting for.

LANDLORD—Big boss in the home of the brave.

TENANT—Landlord's pet dish, 'he eats 'em alive.'

JOB—A Price System trap that's supposed to keep the wolf away from the door. Once installed, the wolf lives happily ever after.

RESPECTABLE MARRIAGE—Connubial bliss after it has cooled off.

SMELL—Congress in session.

STINK—Chief by product of elections.

AVERAGE CITIZEN—The sucker who makes all Price System rackets pay off.

RIGHT TO VOTE—The sacred privilege to kick one bunch of crooks out of office and elect another bunch.

BIG BUSINESS—Chief highwayman on the highway of technology.

SMALL BUSINESS—Smokescreen for big business on the highway of technology.

FREEDOM OF ENTERPRISE—Freedom to compete with big business and international cartels.

LEGAL LUMINARY—Combination fixer and 'finger man' for the above.

PRIVATE ENTERPRISE—Private squatter's rights in the domain of public welfare.

SOCIAL SECURITY—Crumbs that fall from the table of the above.

EASY PICKINGS—Backward areas of the world ripe for Price System exploitation.

RUSSIAN—A 'lousy bum' who has thrown an 'Iron Curtain' around large chunks of easy pickings.

'GODLESS RUSSIAN'—One of that nation of 'lousy bums' that has more churchgoing members than the entire British Empire.

NUT—Any guy who believes that a system organized to manipulate scarcity can also distribute abundance.

CRACKPOT—A guy who smells something rotten in the Price System and tries to treat it with Price System methods.

TECHNOCRAT—An average American after colliding head first with a book full of hard facts. He's never been the same since.

TECHNOCRACY STUDY COURSE—The book this average American collided with. After going through it, you, too, will never be the same.

EX-TECHNOCRAT—A backslider who, no matter how hard he tries, can never slide back to where he came from. He'll never be the same either.

INTEGRITY—A queer code of conduct in these latter days of the Price System. Something grandpappy used to talk about. It went out of style with hoop skirts and the passing of the frontier. It went out of style when corporate enterprise and ecclesiasticism struck a bargain with politics to sell America down the river of social fascism. Without integrity, America is lost.

(Continued on page 53)

Technology Marches On

'Machines Make Jobs'?

By Research Division. 8741-1

Behold The Poor Fish

Menhaden fish are a type of herring used chiefly for oil and fertilizer. Last August they were being brought into Delaware ports at the rate of over 8,000 tons a month. Unloading these fish used to provide a lot of jobs, but no more. By the old hand methods it took 10 to 12 hours to unload a million fish. Today, a vacuum hose is used. It will unload a million fish in less than 2 hours. Unloading time is cut by over 80 percent. 'The fish are drawn from the holds of the boat and sent to storage bins, 1,500 feet from the dock.' (*Wall Street Journal*, August 28, 1947.)

I've Been Working On The Railroad

Union Pacific locomotives are being cleaned and degreased by a shower bath method that takes only 110 minutes compared to the usual 192 man-hours. The locomotive is housed in a chamber of sheet iron and sprayed by 860 nozzles with a caustic soda solution under 50 lbs. of pressure at the rate of 2400 gallons per minute. A 4000-gallon reservoir of the caustic soda solution is recirculated, with suspended grease and paint held back by stationary and rotary screen baffles. A half-hour water rinse completes the operation. (*Industrial and Engineering Chemistry*, Oct., 1946.)

The Pennsylvania Railroad recently installed a giant, semi-automatic mechanism for cleaning electric locomotives. The mechanical locomotive laundry employs horizontal and vertical rotating brushes and revolving pin-wheel sprays of steam and hot water to remove dirt and grease from wheels, journals, springs, and underframes. It will scrub, rinse and polish a locomotive in 15 minutes 'compared with two hours and 55 minutes required to do the job by hand.' (*Wall Street Journal*, September 9, 1947.)

A new-type commutation ticket recently put into use by the Central Railroad of New Jersey does not require any punching. Consequently, 17 employees were laid off, 'In admitting the layoff, a spokesman for the Central said: "The men are being released simply because there is no work for them to do under the new ticket system."' (*New York Times*, September 26, 1947.)

Conveyor Belt Blues

Near DuQuoin, Illinois, is a coal mine called 'The New Kathleen.' The original Kathleen mine, there, was abandoned because of high costs due to antiquated equipment and long hauls from the working faces to the tipple. However the original Kathleen mine provided a lot of production jobs. Not so with 'The New Kathleen.' She is a beauty, technologically speaking, and rather choosy about the company she keeps. Undercutting of the coal as well as drilling is done by machines. Compressed air cartridges with a pressure of 10,000 psi are used for blasting. After blasting, an electrically operated machine gathers the coal and hoists it over a conveyor belt into a shuttle car. The shuttle car also has a conveyor belt. It then moves over to the main shaft and unloads onto the main conveyor belt. 'The coal is moved to the tipple and shunted into a series of inclined grading and washing chutes by conveyor belt.' The coal proceeds by gravity down to railroad tracks at ground level where it is loaded into coal cars.

'Best appraisal of the efficiency of the new mine is that while its output of 5,000 tons a day is the same as the old Kathleen, only 275 miners are needed for capacity operations. Old Kathleen employed 600.' (*Chicago Daily News*, October 7, 1947.)

A new baking machine for cinnamon rolls and tea biscuits has been installed in the Detroit area. It replaces all the old style equipment such as dividers, rounders, proofers, and molders. Two strips of dough are fed through automatic rollers. At this point the filling, such as cinnamon, is deposited on the bottom layer of dough. The two strips are then brought together and 'a press stamps and drops the rolls, ready for the oven, in trays automatically fed under the press.' The machine replaces four standard machines previously in use, and turns out 4,800 rolls an hour. 'It will require one-third the labor needed to operate the present four machines.' (*Wall Street Journal*, August 11, 1947.)

*'For I remember stopping by the way,
To watch a Potter thumping his wet
clay.'*

'Mechanization is creeping into American potteries.' U. S. producers are in the midst of a revolution in the industry. The revolution began with the installation of materials handling devices. Then came the automatic jigger. This machine forms flatware, pitchers, gravy boats and similar pieces, buffs the uneven edges, dries them, and makes them ready for the first firing. A four-man crew performing these operations by hand used to turn out 35 to 40 dozen plates an hour. The automatic jigger turns out 240 dozen dessert dishes, or 180 dinner plates.

Then, there's the mechanical dipper. A good hand dipper can turn out 800 dozen pieces of flatware a day. The mechanical dipper carries 1500 dozen pieces through the glazing spray and drying oven every hour. 'Artisans who put the gold or silver lines on the outer rims of flatware could complete as many as 200 dozen a day each. A "liner machine," with a crew of three, handles 150 dozen an hour.' Other technological changes, more startling, are in the offing. (*Business Week*, September 13, 1947.)

A new oil extraction process has been developed by the Southern Regional Research Laboratory of the U. S. Department of Agriculture. The process extracts oil from cottonseed with a petroleum solvent (hexane) instead of with a conventional hydraulic press. This is the first radical innovation in cottonseed oil production since the first cotton oil mill was built in 1837.

The seed is first cleaned and delinted. Then it is passed through machinery which separates the hulls from the kernels. 'These are then cooked and fed into the top of an extractor, passing downward. A solvent, fed in at the bottom, travels upward.' The solvent-oil mixture is then clarified and distilled which permits separation of the oil and reclamation of the solvent. The process produces a greater yield of oil per ton of seed; a better cottonseed meal with more protein; superior quality oil;; recovery of by-products never obtained before; and recovery of lint for use in felt and padding. 'Only four skilled workers are required to operate the plant, which has 240 tons a day output.' (*Business Week*, June 28, 1947.)

Tell Me Not In Mournful Numbers.....

The first machine tool show held in the U. S. in a dozen years was recently put on in Chicago. It was 'the biggest collection of new developments in metal-cutting equipment ever assembled under one roof.' Over 2,000 new tools of 220 types were assembled. The show covered 12 acres. Up and down its 3 miles of aisles over 100,000 industrialists, engineers, technicians, Technocrats, and visitors from over 30 foreign nations, plodded back and forth, seeing with their own eyes the marvels that technology has wrought.

Machine after machine, by the hundreds, demonstrated in actual operation that modern technology makes production jobs scarce. Still those obtuse apologists, the industrial editors of the Price System, come out with their half-reasoned, wholly-sycophantic articles

that 'Machines Make Jobs.' Every technician in the land worth his salt knows better. We could fill this whole magazine with data and examples to refute these stuffed shirts. But, what's the use! Once a stuffed shirt always a stuffed shirt. Technocracy has more important fish to fry.

Perhaps a few headlines about the machine tool show from authoritative voices of the Price System will make a dent in the cerebral concrete of our stuffed shirt friends. The *Wall Street Journal* of September 8, 1947, in its story of the show, headed it this way. 'Machine Marvels—Huge New Tools Speed Output, Cut Costs, Yield Better Products.' What costs do you suppose they referred to, the cost of toilet paper, or doilies for afternoon tea parties. No, they mean costs of production and that spells *less jobs*.

Business Week in its story of September 27, 1947, used his head: 'The New Tools: Less Labor, More Output.' That's the way to say it.

Mill and Factory for September, 1947, in its story of the show used a huge head which stated: 'Modernize or Perish.' It then went on to say that '10 men operating 10 old machines produce 50 parts per day. Six men operating 2 Modern Machines produce 200 parts per day. Result: High wages, High Profits, Low Prices plus four men available for other work in the plant.' The only trouble with this idiocy is that the only men who get the high wages are the 6 men left on the job; the Boss gets the High Profits; John Q. Public can wear his shoe leather out hunting for the low prices; and the 4 displaced men, or an equal number of others, will not be used for other work

in the plant. Technology is everywhere these days.

Exhibits No. 1 and 2.

Factory Management and Maintenance for September, 1947, reports the results of a survey it conducted on 'What's Happening to Productivity.' The survey was conducted among 476 companies employing over a million workers. Since January, 1946, there has been an overall increase in productivity in these companies of 5.3 percent. Figured on a per year rate of increase this amounts to 3.3 percent. '*Ninety-two percent (of the companies) predict that productivity will rise an average of 7.6 percent in the next year.*' (Italics theirs.)

The Bureau of Labor Statistics reported in November, 1947, that Output per Man-Hour in 24 industries has risen 7 percent between 1945 and 1946.

A Skunk By Any Other Name

An instrument for measuring all kinds of odors, pleasant or otherwise, has been developed by the Hooper Foundation of the University of California. It is expected that the instrument, expressively called the Stinkometer, will eliminate the need for the services of fish smellers to determine whether fish is spoiled. It will probably be useful to a broad range of manufacturing and processing industries.—*Steel*, Sept. 9, 1946.)

Now, if some gadget genius would only invent an instrument to measure the stink that rises to high heaven every time a Price System apologist proclaims that 'Machines Make Jobs,' we could die happy.

No Connection

Farmer Zeke: 'Look here, you owe me \$8 for pasturing your heifer. I've had her now about 10 weeks. When do I get the money?' Farmer Hank: 'Say, that critter ain't hardly worth \$10.00.'

Zeke: 'Then suppose I keep her for what you owe me?' Hank: 'No, I won't do that, but I'll let you keep her two more weeks and then you can have her.' (Fillers, April, 1947.)

Technocracy And Your Trade

Machine Shop Workers

By Organization Division. 8741-1

Basis of Mass Production

A machine shop is a workplace where machine tools are used. Machine tools are power-driven mechanisms which perform the double function of holding a piece of metal firmly in position while shaping it to the desired form. The shaping is done by cutting, shaving or grinding the metal or drilling holes in it. Some machine tools operate by moving the cutting edge around, over or through the metal. Others operate by moving the metal around, over or through the cutting edge.

The most common kind of machine tools include lathes, grinding, honing and lapping machines, boring mills, drilling and milling machines, shapers and planers. 'Machining is one of the five principal methods of shaping metal. The others are casting, forging, rolling and stamping.' Bulletin No. 895 of the Bureau of Labor Statistics, to which we are indebted for all data and quotations used here, unless otherwise specified, offers this statement in regard to machine shop workers.

The machine shop worker is a key figure in this age of metal. His work is essential in the manufacture of automobiles, railway cars, airplanes, farm machinery, and a thousand other products. In addition he makes and repairs machinery used to manufacture these products, and even the machine tools which make other machines. It is easy to see the critical importance of machine shop workers in our economy . . . Machine shop jobs are the largest single group of skilled jobs in manufacturing . . .

Types of Shops

There are several types of machine shops. Some manufacture metal products and other machines. Some do maintenance work. The manufacturing shops are divided into three groups; job shops, machine-tool plants, and

production shops. In job shops a wide variety of products are made. Job shops usually make only a few of each kind, however. Some produce parts to order for any manufacturer who seeks them out. Others constitute a department of a plant manufacturing custom-made machinery where a wide range of models is produced.

Production shops usually turn out large quantities of identical parts. This type of shop acts as a supplier to mass production industries, such as the automobile industry, household appliances, or radio industry. In these, hundreds of thousands of parts of the same design are needed. Production shops may be independent, others are departments of large plants.

Plants manufacturing machine tools usually produce larger quantities of identical parts than job shops but lesser quantities than production shops. In 1939 there were 200 plants manufacturing machine tools with an employment of slightly over 36,000 wage earners.

Maintenance shops make or repair parts for machinery and metal equipment. They are usually a department of some plant. Thus, some maintenance shops are in metalworking industries while others are in non-metalworking industries. Maintenance shops are found in every kind of business from railroad repair shops to textile mills, to large office buildings.

Job shops because of their variety of work require a wider range of skills. Production shops because of the large quantities of identical parts produced use more semi-skilled and lesser skilled workers. On this point the BLS Bulletin states:

Very often production shops use a number of "special purpose machines" which are designed to perform only one certain operation and therefore do not need special adjustments. These machines are highly automatic and the operators need little skill.

At the peak of wartime employment in December, 1943, there were about 1,200,000 machine shop jobs divided as follows::

1. Machine tool operators.....910,000
2. All-around machinists170,000
3. Tool and die makers..... 90,000
4. Set-up men 20,000
5. Lay-out men 10,000

Machine tool operators usually work on a single type of machine tool. Some are skilled but the great majority are only semi-skilled. Skilled operators are comparable to all-around machinists. They can do widely varying kinds of machining. They can work from blueprints or layouts, set up the machine for each operation, adjust the feed and speed controls, measure the finished work, and sharpen cutting tools. They also understand the machining qualities of various metals.

The semi-skilled operator does work which is repetitive rather than varied. A set-up man or machinist sets up his machine for him, installs the cutting tools, sets the controls, and runs off a trial cut. After this the machine is turned over to the operator whose job consists mainly of watching the operation for signs of trouble.

The all-around machinist is the 'basic and original machine shop occupation.' It 'requires a knowledge of all the machine shop skills necessary to make and repair metal parts for all kinds of machinery and metal equipment.' All other machine shop occupations developed out of this occupation as division of labor was made necessary by the advance of technology.

The majority of all-around machinists are employed in maintenance shops. Also, many are employed in machine tool plants and in production shops where entire machines are made such as tractors and railroad equipment. Many all-around machinists are also employed as skilled machine tool operators, set-up men and lay-out men in production shops.

Tool and die makers are usually highly trained all-around machinists who specialize in making the cutting tools used on machine tools, and the jigs and fixtures used to hold the piece of metal stationary while it is being machined. They also make the gages and measuring devices necessary for precision work.

Die makers make the dies used in the metal shaping operations of forging, stamping and pressing, and the metal molds used in die casting metal and molding plastics. They must possess all the skills of the all-around machinist and in addition be able to work to closer tolerances and do a greater amount of precise handwork.

Tool and die makers are employed in many industries. Quite a few work in tool and die jobbing shops which make machine tool accessories, tools, dies, and jigs on a custom basis for other companies. However, the great majority of tool and die makers' jobs are connected with the automobile industry. Another large block are employed in the household appliance and agricultural implement industries.

The set-up man is a skilled specialist. He works from blueprints, written specifications, or job lay-outs, installs the cutting tools, adjusts the controls, and supervises operation for accurate production. The usual practice is to assign a set-up man to a number of machine tools which are often of one type, such as the turret lathe. He sets them up for the lesser skilled operators who tend them.

The lay-out man is another skilled specialist. Working from blueprints or written specifications, he makes the 'guide lines, reference points, and other instructions to operators on rough castings, forging, or metal stock.' He must be able to use a wide variety of hand tools with great skill and understand the operations of all standard machine tools. Lay-out men are employed chiefly in production shops of mass production industries.

In March, 1940, over 86 percent of all machine shop jobs were located east

of the Mississippi River. Over 75 percent of the jobs were in the 15 States east of the Mississippi and north of the Ohio Rivers. Over 37 percent were in the five States of Ohio, Indiana, Michigan, Illinois, and Wisconsin. About two-thirds of all machine shop workers are employed in metal working industries and one-third in non-metalworking industries.

Impact of Technology

Bulletin 895 states:

Since metal working industries employ by far the bulk of the machine shop workers it is to these industries that we must look for the chief indication of what is likely to happen to machine shop employment.

O.K., Bulletin 895, we'll take you at your own word. Let's see first what HAS happened in metal working industries in the past and what is happening now. This will give up a good case to project into the future.

The Bulletin presents an optimistic picture of trends in the metal working industries. It says that: 'The trend of metal products, although marked by extreme ups and downs, has been generally upward for many decades.' Note the use of the word PRODUCTS. Nothing is said about jobs. It is well known that total production of the metal working industries has been 'generally upward for many decades.' Can the same be said for the total number of jobs, or man-hours of labor?

The answer is NO! The Bulletin itself provides this answer in the appendix on Page 26. In 1899 there were 1,173,000 production workers in the metal working industries. During the next two decades employment rose to 3,023,000 by 1919. That year marked the peak of prewar jobs. Thereafter the number of jobs declined for 20 years until World War II started in 1939.

At the peak of war production near the end of 1943 employment had risen to over 7,000,000 jobs. Since then, up to October, 1946, it has again been declining. In the latter month there were more than 2,500,000 less jobs in

metal working industries than at the peak of war production. No appreciable increase in employment in metal industries has occurred since October, 1946. These are the Bureau's own figures.

However, there were over a million more jobs in the metalworking industries in 1946 than existed in 1919. This sounds like a big gain. If we recall that the average work week in 1919 in all manufacturing was 46.3 hours and in 1946 was only 40.5, we can see that the increase in total man-hours of labor (aside from the wartime boom) has not amounted to much.

At this point we should remind ourselves that total mass purchasing power is not determined by the total number of jobs, but by the total number of man-hours bought and paid for. Every coolie in the Orient has a job, a burlap sack to wrap around his skinny carcass, and a bowl of rice to chew on, at least most of the time. The word JOB in itself means nothing. Most convicts in penitentiaries have jobs. But, neither convicts nor coolies have much purchasing power.

Long-Run Prospects

A large part of the increase in jobs and man-hours of 1946 as compared to 1919 is due to the fact that during the 1930's there was far less capital invested in new metal working plants and equipment than during the 1920's. An *American Machinist* Inventory of Metal Working Equipment reveals that in 1930 only 46.3 percent of all metal working machines were over 10 years old. In 1940 the percentage 10 years old was 70.5 percent. As machines get older, their productivity declines, thus necessitating more man-hours of labor, or operation, to maintain production.

Thus, while there has been a big war boom in metal working, this means little in regard to longrun prospects in the industry. The war and post-war conditions are artificial and temporary. Of course, if American fascism could manage to maneuver U. S. into a permanent war, say with the 'godless Russians,' there would be plenty of jobs

in machine shops. The only trouble with that is that in a few years the U. S. would run out of metals. Then there wouldn't be any jobs at all.

The BLS Bulletin states that:

The number of jobs for machine shop workers in the future depends upon the production trends of the industries in which they are employed and also upon the effects of technological changes.

At last, the cat is out of the bag. 'Technological changes.' Where have we heard that before? It seems to us that Technocracy Inc. is always talking about the impact of technology. Maybe the BLS has something here. Let's see.

Among the technological factors cited by the Bulletin are the following:

1. Highly automatic, special purpose machines
2. High speed carbide cutting tools
3. Electronic controls
4. Hydraulic mechanisms
5. Increased use of profiling attachments
6. Better organization of machine shop processes
7. More economical and precise methods in casting and forging.
8. Substitution of other processes such as stamping, die casting and plastic parts

The Bulletin hastens to add that: 'These improvements, while reducing the employment required for a certain volume of output do not necessarily result in a lowering of total employment needs.' As if on second thought, however, the Bulletin adds the following:

Technological changes cannot, however, be ignored in considering the prospects for employment in any particular industry or operation. This is because they affect the amount of employment which will result from a given volume of production in the future. In the case of machining processes, there have been many recent technical changes which may have an important effect on the number of jobs there will be for machine shop workers. During the war, under the necessity of increasing rapidly the output of metal products, the development of new machines and techniques was in-

tensified and hastened. Many of these developments should carry over into the future with even greater force.

Curtain's Going Up

That's telling them. The effect of wartime developments is already evident. A publicity release of the BLS dated June 7, 1947, reveals that the number of direct (non-supervisory) man-hours required to produce a machine tool declined 10 percent between 1939 and 1945. The report was based upon a study of 12 standard machine tools.

A glance at Department of Commerce figures on expenditures for new plant and equipment throws a lot of light on this decline in man-hours. Between 1937 and 1939 there was more new capital investment in plants, etc., than in any like period since 1929. In 1940, with the start of defense preparations and until 1942 new investment jumped still higher. During 1943 and 1944 it declined because of the war. However, 1945 saw a peak in capital investment. This peak was exceeded in 1946, and 1947 puts even this in the shade.

The coming year of 1948 promises to see more new capital invested in metal working plants than ever before. A survey by *Iron Age*, published in its September 11, 1947, issue reveals that 560 metal working companies that spent \$50,000,000 for new machine tools in 1940 will spend \$72,000,000 for new tools in 1947-1948.

Another survey by the *American Machinist*, published in its September 11, 1947, reveals that 643 metal working companies will spend about \$95,000,000 for new equipment before the end of 1948. Extrapolating from this sampling of the industry *American Machinist* states it is conservative to estimate that about \$500,000,000 will be spent for new machine tools by domestic metal working industries before the end of 1948.

Over 44 percent of the new machine tools listed in the survey will be carbide tipped, and 34 percent will have hydraulic feeds or drives. This is not all. *Iron Age*, in its September 11, 1947, issue reports that the average monthly shipments of machine tools in 1946 were

nearly twice the 1939 monthly level. Over 53,000 new lathes, over 55,000 new grinding and polishing machines, and over 10,000 new milling machines were shipped in 1946. About 20 percent of our machine tool output has been going abroad recently, according to the U. S. News of August 8, 1947.

Look Inside The Package

At first thought it might seem that all this will create a lot of new jobs. Such is not the case, however, all apologies of the Price System to the contrary notwithstanding. It is true that new capital investment creates new purchasing power while it is being spent. That is the effect up to the time the new equipment is installed and operating. After that the reverse effect accrues.

The new equipment invariably produces more output with less man-hours of labor. Thus, the cumulative effect is to reduce total man-hours and hence total mass purchasing power. If machines made jobs as Price System apologists assert, then there should have been an ever growing shortage of labor evident as technology developed. The opposite has been the case.

Before 1900 when modern technology started to come in, unemployment was unknown in the U. S.; except during financial panics. From 1900 to 1919 the American Price System was still expanding. Unemployment was small. However, from 1919 to date, or for the last 27 years, mass unemployment has become chronic, except during wartime. As technology developed, there have been fewer and fewer job opportunities in productive industry. This is true for manufacturing, agriculture, mining, construction, and transportation.

The percentage of the population engaged in these lines has fallen ever since 1900. More and more people have been forced into trade, service, distribution, and financial lines to make a living. These lines do not add anything to the basic wealth of the country. Alfred G. Norris of the University of California has pointed out these facts in his study of *Employment Trends in the U. S. Since 1900*.

In connection with machine shop jobs, a look at the number of machine tools in use in comparison with the number of jobs in machine shops is enlightening. In 1919, the peak of pre-war employment, there were about 600,000 machine tools in use (G.L.T. Research Figures) and 3,023,000 jobs in machine shops. In October, 1945, there were about 1,775,000 machine tools in use (American Machinist) and, according to Bulletin 895, there were 4,681,000 jobs.

Thus we see that the number of machine tools almost tripled in the 27 intervening years, but the number of jobs increased by only a little over 50 percent.

The *American Machinist* figures on installation of new machine tools also show the following when compared with the BLS figures on employment. From 1919 to 1939 while the number of new machine tools was steadily going higher, the number of jobs was steadily dropping.

The next time some Price System fakir tells you that 'machines make jobs' tell him to have his head examined.

A New Day Is Dawning

Where does all this leave the machine shop worker? It leaves him in the same boat with all other Americans. The dictum of the Power Age is that the only way to produce more is to install more technology and reduce man-hours. This may seem like a dismal prospect especially to the bulk of machine shop workers classed as semi-skilled. They will get the axe first.

However, this same dictum of the Power Age holds forth a certified promise of Abundance and Security for all citizens. We have always produced more by working less, ever since technology came in. However, as a people we have not received the benefits therefrom. These have always gone to 'Good Old Free Enterprise' (our quote). The only way to realize a social system of Abundance, Security and Equal Opportunity for all citizens is to scrap the business and financial controls over

our system and install technological social controls.

Technocracy Inc. has made a special study of this. Its analysis and conclusions cannot be refuted. It would be to the best interests of all machine shop workers to join Technocracy. There they can learn the correct an-

swers to all American social problems. Technocracy does not conflict with unionism. It is purely educational, non-political, non-sectarian, and non-profit. Technocracy has the answers you are looking for.

Join Now!

That 'New Look'

Before the war there were about 2,000 management consulting firms in the U.S. Today there are about 15,000. These firms are in the business of devising ways and means to cut the cost of doing business for other firms. The *Wall Street Journal* for May 22, 1947 says: 'The waiting rooms of these experts, known as management engineers, are jammed with corporation representatives seeking a cure for high costs.' They will find it, but you can bet it will be at the expense of the human components concerned.

The National Society of In-Plant Feeding Engineers recently made a survey of industrial feeding operations in more than 58,000 plants of the U. S. Results are as follows: The 'worker who has a rest period and a chance to get a mid-morning snack averages 14 percent more in working efficiency at the end of the morning than the employee without that opportunity. At the end of the working day, it was found that the employee who has had another rest period and some food in the afternoon is at least 21 percent more efficient.' (*New York Times*, September 14, 1947.)

Women's skirts were made longer to help the women's apparel industry out of a slump. The physical volume of sales was running 22 percent under that of 1946. So, the Big Boys had a meeting and, Presto, all the women in the good old U.S.A. jumped through the hoop. The longer skirts use 250,000,000 more yards of cloth. (Data from 'U. S. News,' October 10, 1947.) To supplement the above 'Business Week' for October 11, 1947, reports that textile profits for 1947 will break all records.

'At Massachusetts Institute of Technology, out of 4,200 applicants only 900 will be accepted this fall. About one-fourth are veterans. The total enrollment at the Institute will be 5,300 about normal. The same conditions exist at Harvard, Tufts and other New England Colleges having engineering schools.' (*'Engineering News Record,'* August 21, 1947.)

U. S. dollars and foreign gold held in the U. S. is greater than before the war. At the same time 16 foreign nations are asking for over \$20,000,000,000 under the Marshall plan. There is now over \$26,000,000,000 hiding in the U. S. which is owned by foreigners. (*'U. S. News,'* October 24, 1947.)

The population of Europe more than doubled between 1800 and 1900, says a Twentieth Century Fund report, increasing from 187 million to 400 million.

Economic justification for the construction of a sewer system in Chungking, China is advanced on the basis that the savings in coffins, due to the reduced death rate, would pay for this sanitary improvement in 19 years. (Coloney A. B. Morrill, U. S. Public Health Service, as quoted in the *'Engineering News Record,'* August 21, 1947.)

The trade union movement of Seattle, Washington has been invited to join the Seattle Chamber of Commerce. The Chamber went to the extent of adding a special clause to its by-laws making such membership possible. In presenting this item of Price System cultural advancement the *'Seattle Star,'* of July 1, 1947 says: 'So far the chamber has had no "nibbles" from unions seeking to join.'

Each In His Own Tongue

By Publications Division. 8741-1

Voice Of The Price System

Read 'Em and Weep

When we Republicans destroyed OPA last summer we did the best thing that could have been done for the American economy.

U. S. Congressman, Robert Hale of Maine.

This program (the national health bill) did not originate in the United States, but in the secret councils of world communism.

U. S. Congressman, Robert A. Grant of Indiana.

The so-called Fair Employment Practices Act, sponsored by so-called progressive Democrats, was in reality part of a program which had its origin under the leadership of the Soviet-dominated Communist Party.

U. S. Congressman, William M. Colmer of Mississippi.

What I want to know is what are we waiting for? Why are we giving the Russians still more time?

U. S. Congressman, Paul W. Shafer of Michigan.

Let us make peace with the German people and line them up on our side, if we are going into this battle royal throughout the world.

U. S. Congressman, John E. Rankin of Mississippi.

All of the above statements were made by the gentlemen named in the proceedings and debates of the 80th Congress, First Session. (As quoted by the *New Republic*, August 4, 1947.)

Fluctuating Pappy

What's so sacred about rent? It's all right for food prices to go up 100%, but not rent, huh?

There is nothing sacred about rent. Both food prices and rent should be allowed to fluctuate somewhat freely!

Congressman Charles R. Fletcher (R. Cal.) to a witness testifying before the

House Banking Committee. (As quoted by the *Chicago Star*, March 22, 1947.)

Second Hand Citizens

I am not saying that all families must have new housing. Obviously most families will continue to occupy second-hand housing. But to assure a larger supply of adequate second-hand housing at prices and rents within reach of lower income families, there must be a progressive reduction in the cost of the new product.

Raymond M. Foley, National Housing Administrator, in a talk to the National Public Housing Conference at Chicago. (As quoted by the *Christian Science Monitor*, March 19, 1947.)

Secretary of Whose Defense?

It is essential that the oil fields of Saudi-Arabia be developed in the national interest. It (the Arabian-American Oil Company's pipeline project) should come ahead of developments in the United States or the Western Hemisphere.

Secretary of Defense James Forrestal. (As quoted in *National Petroleum News*, October 15, 1947.)

How About a 'Farmer's Bible'?

Obviously, more money can be made by the manufacturer if he puts his wood pulp into a higher priced item. And soft facial tissue sells for more than toilet tissue, even though the same amount of wood pulp is used.

Herbert Altholz, an executive of the Inlander Steindler Paper Co., in an interview with the press in explanation of the current extreme shortage of toilet paper in Chicago and vicinity. (As quoted by the *Chicago Daily News*, November 6, 1947.)

Must've Switched Away From Calvert

I understand the national emergency has passed. This is the first I ever

heard of a European emergency impairing a contract over here. The only way the government without law can impair a contract is during a national emergency. Contracts are sacred.

Judge W. Scott Miller of the Jefferson Circuit Court, Louisville, Ky., in a ruling ordering a Bardstown, Ky., distillery to resume operations, despite a request by the citizens food committee to cease operations so as to conserve grain. (As quoted by the *Wall Street Journal*, October 29, 1947.)

Music Lovers—Attention!

Mr. Petrillo has saved the music industry and preserved the live musician, which is important to the preservation of musical culture throughout the world. Without Mr. Petrillo and his battle the nation would become platter-happy.

Daniel D. Carmell, attorney for James C. (Little Caesar) Petrillo, music czar, in a plea to Judge Walter J. LaBuy in U. S. District Court, Chicago, upon the occasion of Petrillo's appearance to answer a charge that he had violated the Lea Act by trying to force a local radio station to hire deadhead musicians. (As quoted by the *Chicago Times*, November 12, 1947.)

Do Not Render Unto Caesar

When the issues of Church and State clash, which often happens in moral problems, the Church reserves her right to dictate her course of action; and being a superior society, should take precedence.

Extract from the *New World*, Chicago's Official Catholic (Roman) paper. (As quoted by Carl Wiegman, in an article on the political activities of the Catholic (Roman) Church, in the *Chicago Tribune*, April 5, 1947.)

Voice Of Technology

It's Still Nip and Tuck

We may be through with the past, but the past is not through with us. Ideas of the Stone Age exist side with the latest scientific thought. Only a fraction of mankind has emerged from the Dark Ages Any man who for one moment abandons or suspends the questioning spirit has for that moment betrayed humanity.

Bergen Evans, Professor of English at Northwestern University, in his book *The Natural History of Nonsense*

Dictum of Dictums

If we choose to build and conserve our resources—as we must in order to survive—then we have no alternative but to accept abundance and learn to live with it . . . It must sound paradoxical to countries poor in resources that we must search for ways to use our abundance in order to provide abundance for the future. And yet that is our true situation.

Secretary of Agriculture Clinton P. Anderson, in testimony before a House Committee considering long range agricultural policy. (As quoted by the *U. S. D. A. Clip Sheet*, May 18, 1947.)

Call For Technocracy

In a world where our lives from the kitchen to the battle line are shaped by the influence of machinery embodying scientific principles and where social questions involve scientific method it is not enough that they should take a couple of old-fashioned departmental science courses.

We need to devise new courses in which the nature of science, the concepts that apply to its various branches, the basic results achieved, and an account of the ways in which results can be achieved will be presented systematically.

Dr. Harry J. Carman, dean of Columbia College, speaking before the Lehigh Valley Conference on the Advancement of teaching at Lehigh University. (As

quoted by the *New York Times*, May 25, 1947.)

It's The System, Mister

The hardheaded, practical American businessman is living in a dream world. His is a very nervous dream, still tintured with rosy hope, but threatening to become a nightmare any minute. Let it be said that, here and there, exceptions to the rule exist. But approximately nine businessmen out of every ten, if my cross-section is a good one, no longer have contact enough with reality to be safe on a scooter on a suburban sidewalk . . .

The businessman has lost all contact with reality. Nothing that he thinks, hopes or acts upon is true. Whatever happens that runs against his illusion, he blames on Roosevelt—a ghost. Because he does not consider himself in any way responsible for society—he has become antisocial.

Philip Wylie in his column in the *Chicago Daily News*, September 6, 1947.)

Good Old Free Enterprise

This is the day of the special interests. The manufacturers weakened the legal basis of collective bargaining. The railroads obtained from the Senate exemption from the anti-trust laws. The wool growers were prevented only by a veto from wrecking the nation's program for expanded world trade. The insurance companies secured a conditional license from Congress, and in Illinois have just secured an open license from the legislature, to fix premiums by monopolistic methods.

All down the line, ever since the war, one special interest after another has imposed its will upon the public will. Social objectives have been sacrificed to selfish objectives, cooperation to conflict, common cause to greed. It is every man for himself, dog eat dog, and devil take the hindmost.

From an editorial in the *Chicago Sun*, July 4, 1947.

'Eventually—Why Not Now?'

In the eighth year of a major inflation we are steadily approaching a major depression. No such inflationary expansion can be corrected by a mere

recession. These statements are self-evident, and the real problem, as always in economic measurement, is the timing. No one can really tell when the coming depression will arrive.

Nevertheless, it is possible to guess that if there were no prospect of anything like the Marshall Plan or of a great new armament program, the depression might very well come upon us in 1948, or at any rate in 1949. On the other hand, financing of and production for either a Marshall Plan or an armament program probably would be inflationary enough to keep business going at a high level for several years more, thus postponing but not preventing the ultimate depression.

The first two paragraphs of an editorial entitled 'How's Business?' in *Baron's Weekly*, September 8, 1947.

Bricks, Too, Maybe, Huh?

It is a matter of record that the research director of United States Steel said quite frankly that they won't expand because they expect a depression. We'll be lucky if they aren't right—if we don't have a bust. If we do have a depression, it'll make 1933 and 1921 look like tea parties. And the fellow on the street corners won't sell apples. They'll throw rocks.

Paul Porter, last director of the OPA, in an interview with the press at Atlanta, Ga. (As quoted by the *Chicago Times*, September 13, 1947.)

Waiting At The Bar

I am willing to appear before your committee and present, under oath, so as to be subject to the pains and penalties of perjury, conclusive documentary proof that the Roman Catholic Church in the United States is engaged in subversive activities which are undermining our American form of Government and are designed to destroy the political and religious freedom of our people.

Former U. S. District Court Judge Albert Levitt of Santa Monica, California, in a letter in July, 1947, to Congressman J. Parnell Thomas (R.N.J.), Chairman of the House Committee on Un-American Activities. (As quoted by *The Converted Catholic*, October, 1947.)

In The Question Box

How To Get Technocracy

By Speakers Division, 8141-1

QUESTION:

Name several practical steps by which we citizens will be able to get Technocracy adopted.

ANSWER:

There are three practical steps every citizen can take to help get Technocracy adopted. These are:

- A. Join Technocracy
- B. Learn Technocracy
- C. Practice Technocracy

Let's take a little closer look at these steps to see what they involve.

Join Technocracy

Obviously, one can do but little on the outside to help get Technocracy adopted. It is all well and good to be sympathetic toward Technocracy. It is all well and good to think and speak favorably about Technocracy when the subject comes up. But how can such action carry much weight if the speaker is not a member and well versed in his subject? The average layman is likely to conclude that the speaker's attitude represents only a curbstone opinion. He will discount your statements accordingly.

This reaction is characteristic among Americans of good sense. They don't call in a carpenter when the plumbing leaks; or a chiropractor when the old jalopy gets stubborn. This is a technological age. North America is populated by a people who have been conditioned to technical factors in a large part of their daily life. When information on any subject is desired, the tendency is to seek out persons whose occupation, or interests, shows that they know something about the subject.

Then, too, people respect other people who have the courage of their convictions. If you can prove that you have gone to some trouble to learn

about any particular thing, people are more likely to listen to you. If they see the Monad button on your coat, this is evidence that you have done this. The act of joining Technocracy is simple. All it amounts to is like a declaration that you want to see a New America ushered in.

What you are doing by joining Technocracy is telling the world that you want more goods and services and better goods and services than the Price System can provide. You want these things for yourself and all other citizens, as well, since that is the only way you can get them for yourself. You want Abundance, Security and Equal Opportunity for yourself and everybody else. So does everybody else.

This is one platform on which all North Americans agree. It makes no difference whether one is black, white, red, yellow, or brown; Catholic, Protestant or Free Thinker; Republican, Democrat, or Socialist; big-brained or lame-brained. All North Americans want more goods and services and better goods and services. All North Americans want Aundance, Security, and Equal Opportunity.

From this you can see how basically fundamental Technocracy's program is. Some day (soon, we hope) it will be as basically popular as it is fundamental. By joining Technocracy you will be aligning yourself with the trend of events that is determining the future. At the same time you will not be endangering your present position in the Price System. Technocracy does not conflict with anything in the Price System, except the Price System itself. It stands for an entirely New America.

Learn Technocracy

After you have joined Technocracy, the first thing to do is get into a Study Class. There you will be provided free with a type of knowledge that cannot

be bought for love or money anywhere in the Price System. You may be only an average, badly-posted American or Old Man Einstein himself. It makes no difference. Everybody can learn a great deal in the Technocracy Study Course. It teaches one the social aspect of Science.

This knowledge is what North America needs more than anything else. Unless a sufficient number of North Americans learn enough about the social aspect of Science to be able to talk about it intelligently, social fascism will take over. Then we won't need to learn anything new, except how to keep from getting shot or locked up in a concentration camp. The social aspect of science contains the key to your future, your family's future, and the future of your country.

If this is not of the top order of importance, we would like to know what is. To be able to present this idea in its many ramifications is an accomplishment of the highest order of citizenship. What is more, it will make a new man, or woman, out of you. It will stabilize your 'mind' and free it from many psychological disabilities induced by Price System conditioning. It will give you confidence, poise, and integrity. It will actually improve your health.

When you have learned Technocracy, you become a marked man. You will be marked in intelligence, understanding and patriotism. People with good sense will look up to you. The other kind don't count. When America's great and inevitable crisis comes, you will be able to help stave off social chaos. You will know which way the bread wagon is going. People will come to you in droves for information. And you will tell them, because you are a Technocrat and an American. Because you are these, you will have the correct answers.

Practice Technocracy

All of the above, of course, is also practicing Technocracy. Nevertheless, there is more to being a functional Technocrat. Technocracy is two things in one. It is a Body of Thought and an Organization. The function of the

Body of Thought is to elaborate the social aspect of Science. The Function of the Organization is to communicate this knowledge to the people.

The Body of Thought called Technocracy revolves around a scientific analysis of the Price System of trade and commerce. This analysis reveals the nature of the system and its operating characteristics. From this breakdown of the system certain general principles are induced and deduced. These form the Synthesis of Technocracy, its conclusions. The Synthesis tells us what to do about what's the matter with this ancient and lousy system.

The only thing that can be done is to scrap it and install a new system organized along new lines, calculated to operate in the interests of all citizens. This new system is not a Utopian dream. Its general form and operating rules are already in use very successfully. How do you think North America achieved its miracles of production in two world wars? Was it done with philosophy, politics, or business methods? It was not.

It was achieved in direct ratio to the degree those ideologies were scrapped and technological principles applied. We could have done much better had we needed to. Behind North America's gigantic industrial machine is a network of physical laws, scientific laws. Over the years of our National existence, this network has grown and been applied in industry. It is by these rules we produce the means whereby we live. Business controls the stop and go lights and exacts its toll along the way. Business does not produce anything except lousy social conditions.

Technology is the producer of physical wealth. Technology is the framework of North America's new social system. What Technocracy has done is to work this out and project the form into the future. So, you can see that Technocracy is not a Utopian dream. It is something real that is struggling to be born in the 'minds' of the American people. The Organization of Technocracy is the handmaiden of this struggle. It waits upon the American people with a service that cannot be calculated in dollars and cents. It is

a selfless service because the Organization of Technocracy will be disbanded when the new social system is installed and operating.

The Organization is made up of local Sections. The Sections are made up of committees and sub-committees. Each one has a different function. The whole operates to put Technocracy to the people. There is a working place for every skill and talent on one or the other of these Section committees. The only way there is to practice Technocracy is to join a Section, get on a committee, and get busy. If there's no Section in your community, start one. It's been done hundreds of times.

Various methods are used to put over Technocracy. However, these are all educational and non-commercial in character. Technocracy is not interested in futilities and the greatest futility of all is to try to solve the social problems produced by the Price System by the use of more Price System methods. It can't be done. If we want to solve our social problems, we must scrap the methods that have failed for so long and use a new approach.

So, you will find that Technocracy is different. There is nothing else like it on this Continent. Its Body of Thought is the pilot model of a new civilization. Its Organization is the Technological Army of the New America. Its members are regular Americans who have a far better than average love for their motherland; a far higher concept of citizenship than the ancient and lousy Price System ever elaborated, and a far higher devotion to their consanguinity with their fellow men than was ever woven from the intricate webs of philosophy.

Science alone has the correct answers to America's social problems. And, Technocracy is the social aspect of Science. If you really desire to help get Technocracy adopted, all you have to do is:

- A. Join Technocracy
- B. Learn Technocracy
- C. Practice Technocracy

Salute and Happy Landings in the New America of Tomorrow.

Cure For Social Cancer

'The essence of science is its method, common to all the individual disciplines, which differ from each other primarily in the group of phenomena with which they interest themselves. The method of science is essentially empirical and is based on observation of phenomena either naturally occurring or induced by experimental procedures. The rationalness of reality is implicitly assumed and cause and effect relationships sought.

'The great objective validity of science depends on its rigorous adherence to the facts of nature in preference to beliefs or dogmas based on any human authority. Thus, the facts recorded by any individual must be confirmed by others before they are accepted as certainly true, and the theories devised to explain the relationship of these facts are subject to revision in terms of all future facts.

'Science has indubitably been of great utilitarian value to mankind, our present

industrialized civilization depending every minute on the technical and hygienic achievements of science.' (From the syllabus of the biological sciences, Fourth Preliminary Edition, 1934, The University of Chicago.)

'The cancer in western society is not the class war or nationalism, it is not communism or fascism; it is the refusal of the minority to share civilization and its advantages with the majority.' (Leonard Woolf in his book *Quack, Quack*, page 27.)

'Of all the various ways in which the imagination has distorted truth there is none that has worked so much harm as an exaggerated respect for past ages.' Henry Thomas Buckle (1882-1862) English historian in his work *History of Civilization*.

Add Dictionary Items

(Cont. from page 37)

ROUND TABLE DISCUSSION — A cracker barrel gab fest moved from the general store in Podunk to a radio station in Chicago.

MODERN SOCIAL PROBLEM — How to skin the other fellow before he skins you.

MONARCHY — Institutionalized racketeering—glamorized thievery.

POLITICS—Fraud in which public works is used as a 'blind pig.'

LAW OF SUPPLY AND DEMAND — Catch as Catch Can, no Holds Barred, and the Devil take the hindmost.

INTEREST—Usury in disguise.

INDUSTRIALIST—A usurer traveling incognito.

TAXES—The toll charge to go down the road of life.

THE PRESS—The sick room chart of the Price System.

POLITICAL SCIENCE—A formal study in social futility.

SOCIAL SECURITY—This one has us stumped. What the hell is it? We are just as curious as you, brother.

BANK — An institution where one can borrow money if one can submit evidence to show that one doesn't need money.

BRAIN TRUSTER—One who can bring organized chaos out of regimented confusion.

Only \$1.50 out of every \$100 the average American spends each year goes to the support of churches and private welfare organizations says a Twentieth Century Fund report.

'More than \$1,000,000,000 will be spent by American and Canadian producers of pulp and paper in the next two years for expansion to meet increasing demands for paper and paper products, a survey made by the American Paper Merchant indicates.' (*Commerce* magazine, March, 1947.)

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933.

Of GREAT LAKES TECHNOCRAT, published bi-monthly at (Chicago, Illinois, for October 1, 1946.
STATE OF ILLINOIS } ss.
COUNTY OF COOK }

Before me, a Notary Public, in and for the State and county aforesaid, personally appeared R. B. Langan, who having been duly sworn according to law, deposes and says that he is the Editor of the GREAT LAKES TECHNOCRAT, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse side of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor and business managers are:

Publisher—Section 1, R. D. 8741 Technocracy Inc., 3178 N. Clark St., Chicago 14, Illinois.

Editor—R. B. Langan, 3178 N. Clark St., Chicago 14, Illinois.

Business Managers—None.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

Section 1, R. D. 8741 Technocracy Inc., 3178 N. Clark St., Chicago 14, Illinois, which is a chartered unit of Technocracy Inc., Continental Headquarters at 155 E. 44th Street, New York 17, New York, a non-profit, membership, educational organization, with no stock or stockholders. The Officers of Section 1, R. D., are Richard Starck, Director; Eys Pettit, Secretary; O. Floyd, Chief of Staff; E. Nelson, Treasurer all with addresses at 3178 N. Clark St., Chicago 14, Illinois.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

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ROBERT B. LANGAN.

Sworn to and subscribed before me this 17th day of September, 1947.

JOHN G. FRIENDLEE,
Notary Public.

(My commission expires March 8, 1950.)

The trucking industry is howling its head off about the Navy's 'long-time habit of moving its personnel's private home furnishings with Navy trucks.' (*'Wall Street Journal,'* October 24, 1947.)

NOTICE

To Our Readers

If you will send in seven names to 'Great Lakes Technocrat,' together with a one dollar bill we will mail each one a sample copy. 7 for \$1.00.

Facts In A Nutshell

In 1900 there were 175 different sizes of lamp sockets and bases.

A pound of aluminum can be spun into a thread or filament 11,500 yards, or six miles long. (Science Digest, April, 1946.)

A glass ball five-eighths of an inch in diameter can be stretched into a continuous fibre 95 miles long.

The human body is so full of empty space that if we concentrated all the 'solid' matter in one place, the average body would be about the size of an aspirin tablet.

All kinds of fabric clothing can be made by gluing the cloth together instead of sewing it, according to tests performed on various fabrics at the Good-year Laboratory.—*Plastics News Letter*, April 23, 1945.

There are only 746 vessels of 100 horsepower and over operating on U. S. inland waterways. About 65 percent of them are equipped with Diesel engines and new construction is almost all Diesel. (New York Times, March 16, 1947.)

'Of 188,500 tons of wood cut in the forests of the United States each year for lumber, pulp and paper and other commercial products, 108,900 tons, or 57 percent, is wasted or burned for fuel.' (New Agriculture, August, 1947.)

Some Technocracy Section Addresses in Great Lakes Area

- 8040- 2—Box 356, Ambridge, Pa.
- 8041- 1—1613 East 51st St., Ashtabula, Ohio.
- 8141- 3—39 E. Market St., Akron, O.
- 8141 -7—P. O. Box 270, Barberton, O.
- 8141-14—P. O. Box 553, Kent, Ohio.
- 8141-15—10537 St. Clair Ave., Cleveland 8, Ohio.
- R. D. 8242—c/o John Reynolds, St. Clair, R. No. 2, Mich.
- 8341- 1—3242 Monroe St., Toledo 6, Ohio.
- 8342- 1—9108 Woodward Ave., Detroit 2, Mich.
- 8342- 2—112 N. Tasmania, Pontiac, Mich.
- 8343- 1—6717 N. Saginaw St., Flint 5, Mich.
- 8439- 1—37 E. Fifth St., Dayton 2, Ohio.
- 8741- —3178 N. Clark St., Chicago 14, Ill.
- 8743- 1—3546 N. Green Bay Ave., Milwaukee 12, Wis.
- 8844- 1—620 S. Broadway, Green Bay, Wis.
- 8844- 2—1011 W. College Ave., Appleton, Wis.
- 9038- 1—4518 Delmar Blvd., St. Louis, Mo.
- R. D. 9041—2428 13th Ave., Rock Island, Ill.
- R. D. 9140—18 N. 5th St., Keokuk, Iowa.
- R. D. 9241—620 Pershing Road, Ottumwa, Iowa.
- R. D. 9344—Box 572, Uptown St. Paul 2, Minn.
- 9344- 1—1924 Lyndale Ave. So., Minneapolis 4, Minn.
- 9439- 1—418 E. 9th St., Kansas City 6, Mo.
- 9648- 1—819 N. Duluth Ave., Thief River Falls, Minn.
- R. D. 9737—4442 Bayley, Wichita 9, Kan.
- R. D. 9738—614 E. 8th, Hutchinson, Kan.

TECHNOCRACY

NORTH AMERICA'S ONLY SOCIAL DYNAMIC

WHAT?

★ Technocracy is the only North American social movement with a North American program which has become widespread on this continent. It has no affiliation with any other organization, group or association either in North America or elsewhere.

★ The basic unit of Technocracy is the chartered Section consisting of a minimum of 25 members and running up to several hundred.

★ It is not a commercial organization or a political party; it has no financial subsidy or endowment and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$6.00 which are paid by the member to his local Section.

★ Members wear the chromium and vermillion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHERE?

★ There are units and members of Technocracy in almost every State in the U. S. and in all Provinces in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces.

★ Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHEN?

★ Technocracy originated in the winter of 1918-1919 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934, Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundations of the present nation-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or re-births. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHO?

★ Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life, Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this continent. Membership is open only to North American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective political office or active office in any political party.)

★ Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—as long as you are a patriotic North American—you are welcome in Technocracy

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Chicago 14, Illinois**

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HALT—WHO GOES THERE?

‘The real friends of our American way of life are those who recognize and fearlessly reveal the obvious danger signals that are evident on every side, and who seek to eliminate the threats to our social order while there is yet time and opportunity.

‘The most dangerous enemies we have are not the “crackpots” who peddle cheap and naive panaceas. Such persons at least recognize that something is wrong, though their remedy may be as bad or worse than the malady itself.

‘The real menace to our civilization is to be found in those who insist on living in a “fool’s paradise” of smug conceit and complacency, conducting a sort of sit-down strike against intelligence, and insisting that nothing is wrong in this best of all possible worlds.

‘Such adamant smugness inevitably charts the course of society from decadence through dry rot, to crisis and totalitarianism.’

(Harry Elmer Barnes, educator and historian, in the preface to his book ‘Social Institutions’, page VIII.)

Great Lakes **TECHNOCRAT**

JULY
AUGUST
1948

25¢

The Story of Eddie Jordan

The Vanishing American

Without Money or Prices

Postwar Mineral Production

Memo for 1948

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GREAT LAKES TECHNOCRAT

JULY - AUGUST, 1948

VOL. IV. NO. 11

WHOLE NO. 92

Illustrating the Futility of Price System Methods of Operation.
Interpreting the Trend of Events from the Social Aspects of Science.

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The Story of Eddie Jordan

There's a Million 'Good Guys'

By Sam Pavlovic, R.D. 9344

All the characters portrayed in this story are real. Any similarity to persons now living is purely and strictly intentional. There are, maybe, a million Eddie Jordans. Maybe you are one. Who knows? If not, maybe you know an Eddie Jordan in your own neighborhood. He is one of the chief products of 'good old free enterprise.' He is a symbol of the ancient Price System of Trade and Commerce.

Some time had passed since I had last seen Eddie Jordan. He was gazing, reflectively, into a half-emptied glass of beer when I placed my hand on his shoulder. He turned and a warm smile filled his face. I always liked that trait of Eddie's. He never went in for boisterous greetings nor did he subject you to a mangling handshake. He just smiled. Sincerity was a strong feature about Eddie. It was there in the soft greeting that backed up his smile.

After a conventional exchange of courtesies, we inquired into each other's personal fortunes. I had first met Eddie some seven years ago when we were working on the same job. He was never thick with anybody but for some reason I struck the proper psychological note with him. During the lunch periods we sat by ourselves and talked. In the course of our daily chats, bit by bit, I pieced together the story of Eddie Jordan.

There was no pulse quickening drama in it; the drama was of another nature. In Eddie Jordan I saw a prime example of how the Price System can push a man around. The story of Eddie isn't spectacular for the simple reason that there are a million Eddie Jordans. The people that get themselves into the best selling books and the news headlines are the social extremes. The Okies and the Arkies make a great theme for writers like Steinbeck. On the opposite end of the

sideshow the tinsel-tinged collection of cafe notables, playboys, movie stars, and assorted public idols of the psychotic symphony hog the print.

Eddie is around 36 years old and the father of four children. We can't say that the Jordans are an average or typical American family; that's tricky terminology at best. The important thing is that the Jordans ARE AN AMERICAN FAMILY and that there are millions like them. The Jordans belong to the 'marginal majority'; that is, they live from one pay check to another. Unemotional statistics show that seven out of ten American families are only about ten days away from some form of social handout if the pay checks are stopped.

As we drank our beer, Eddie stated that things were a 'little rough' with him. I didn't force him into any details. But, as the conversation progressed, it became apparent that he and his family were still taking a good pasting in the one-sided duel with the Price System. The following view into his everyday life will give us a pretty good perspective of his history, past and present. At the same time, many Americans will see their own lives reflected therein. The thermometer of their personal fortunes may vary; that is, some may be a few degrees above the Jordan reading but more will have the same or a lower reading.

Eddie is employed in a metal shop.

In the light of present technological development, Eddie's shop is an industrial anachronism. It isn't a colossus as an industrial unit, nor is it a midget. The shop came into being in 1893. It is still housed in the original buildings. Most of the original equipment is still in use. The war, of course, enhanced the company's coffers. This resulted in some new equipment; but all the innovations have been of a conservative nature.

In regard to shop efficiency, there is an obvious lack of it. At present the shop's handiwork is a part of America's give away program, which is palmed off as being foreign trade. The dollar profits are rolling in so the status of shop efficiency isn't worried about too much. As soon as profits start falling off, there will then be a mad hurry to increase efficiency.

Eddie works with a pretty good bunch of fellows. Shop atmosphere and routine, naturally, conditions certain psychological responses. Eddie's shop has the usual quota of apple polishers. Of course, there are other names for them but propriety forbids. There is also the usual sprinkling of that feathered element that gets one part of its name from an item of furniture and the other from a well-known member of the bird family. A good part of Eddie's co-workers have been around the shop for a long time. Some are fossilized and most of them are pretty well docilized.

Eddie's boss is sixty-four years old. He is easy to get along with until about an hour before lunch. At that time his feet start hurting him and he has a proportionate change in attitude toward the men. Some forty years of pacing the concrete floors of the shop have raised hob with his arches. He knows his job by rote. Any variation will upset his conditioned equilibrium. Something new on a blueprint will start him off on a session of head scratching. When it comes to

enforcing the petty rules of the company relative to shop behavior, he is tops.

The brain boys who know about these things class Eddie's shop in the paleotechnic phase of industry. For that matter, they say that the majority of American industrial units are in that category. They can send you, as the jivers put it, when they start to describe the ultra-neotechnic setup of tomorrow. Of course, you have to stop and remind them that there is a little matter of the Price System that keeps tomorrow from dawning today. If the brain boys don't get the grab of the social end of science and technology, most of their ideas will find obituaries on the drawing boards.

Eddie came to work in the shop at the start of the war. He began as a helper but as he was exempt from the service, he soon gained the emergency status of a mechanic. Eddie, who is an alumnus of direct relief and the WPA, became like a man reborn. The mechanic's status and, seemingly, big pay was seventh heaven after the bitter struggle of the relief and WPA years.

For the first time, the Jordans were able to maintain a decent condition of living according to Price System standards. They didn't roll in luxury but Eddie, who has just as much pride as any normal American, was overjoyed in being able to provide the necessities of life for his family out of his own pocket. He was even for the first time able to acquire a margin of savings through the medium of war bonds. When the war ended, the bubble did not bust for Eddie, although it started to shrink. The shop's products had a civilian market, so Eddie was able to keep right on working. Of course, the party was no longer on Uncle Sam, so there was no more overtime. The rising cost of living soon caught up with Eddie's trimmed earnings. His bubble collapsed the other day.

As we stated, Eddie's status as a mechanic was classified as an emergency role. In spite of changing conditions he hung onto his mechanic's rating for over two years after the war ended. Recently, a department consolidation caused some reshuffling. In the process some foremen went back into overalls and Eddie, suddenly, found himself a helper again, with twenty-three cents lopped off his hourly rate. This not only hit him in the pocket but it put a big dent in his morale. He had demonstrated his right to a mechanic's status. Yet, under the competitive rules of the Price System, he is outside looking in.

Now, here is something interesting about Eddie's co-workers. A surprising number of them have wives working and some of them hold down two jobs 'to make ends meet.' The majority of them would like to beat the rap of punching a time clock. They're no different from the millions of other Americans who wishfully yearn for economic independence and security. Sooner or later they will realize that under a Price System method of social operation, economic independence and security can be attained only by a small minority.

Eddie, over the years, has never allowed his wife to go out and hold down a job. In the first place, Mrs. Jordan has never enjoyed good health. The job of raising four children has taken all of her time and energy. Eddie has a great pride in his family, but as we talked I sensed that all of the old fears have started to nibble on his heart again.

The Jordans live on the first floor of a brick flat that was built in the late 1880's. The flat is in the area that borders the city market. It is the oldest part of the city and, naturally, the most dilapidated. The old flat has made a brave stand against the successive onslaughts of heavy-footed and door-slamming tenants. Over the

years the right of human occupancy has been vigorously contested from the other end of the realm biologic. Succeeding generations of rats, mice, cockroaches, bedbugs and their ilk have resided under the same roof with the human inhabitants, minus the worry of meeting the rent. For the sentimental it can be stated that the weary, old flat has more than seen its share of births, deaths, illicit love affairs and the like that make up the pattern of human existence. As a place of decent, human habitation, it has given up the ghost long ago. Through the years, the flat has been the property of corporate finance whose main interest and concern has been the regular collection of the rents.

Though the odds have been against them the Jordans have striven to maintain a decent appearing home. Eddie, who is clever with his hands, has made repairs and small innovations for the whole flat strictly on his own. Over the years he has developed into an amateur plumber. With four families using one bathroom, Eddie has been presented with many an opportunity to acquire skill.

A few months back the flat was sold to private ownership. The private ownership had private plans which called for the wholesale eviction of the tenants. The Jordans, along with the rest of the tenants, have been fighting the eviction in court. Through the aid of the city attorney, they have been able to stall the eviction. Their victory is temporary only; it is just a matter of a little time before they will be ousted.

Eddie has taken the eviction hard. Even though the old flat is a class A dump, he will be lucky if he can find some thing to equal it. The Jordans, like millions of other Americans, have never been able to get enough debt tokens together to buy a home of their own. After a peek into the Price System crystal ball, there will be no

change in the future except for the worse. While Americans, like the Jordans, live in shacks and dumps, their technological setup has the means of turning out scientifically designed housing units on a mass production basis.

As our conversation progressed I gathered that Eddie wasn't a beaten man but had, in the course of his reverses, adopted a fatalistic attitude. Eddie's four kids are his greatest contribution to the social jackpot and they have provided him with psychological insulation for the future. He knows from past experience that at handout time a man with a large family will get first preference.

Back in 1937, when one of Eddie's kids needed special medical attention, in desperation he appealed to the Governor of the State. Eddie got results along with a picture in the news papers showing him shaking hands with the Governor. The Governor, who is now dead, was a great guy. The first time that Eddie mentioned the incident, almost reverently he recalled the personality impact of the Governor on him. It was at this point that I first talked Technocracy to Eddie. I pointed out to him that it was the scientific method, not men 'good and true' that the country needed. I dwelled on the fact that the Governor, despite all his humanitarian intentions, accomplished very little. The rules of the Price System game of social operations did not permit otherwise.

Eddie is no dope nor is he a smart Aleck, but at first he was very skeptical about Technocracy. This was nothing new. Eddie, like most Americans, reflects the obsolete concepts of yesterday, the yesterday of hand toil and natural scarcity. Eddie is part of a social body whose very design can only function by one law—the Law of the Claw.

During the various times that I have talked Technocracy to Eddie, I have attempted to show him that Technocracy is not a political class uplift, but a social blueprint for a new order of civilization here in North America; a social blueprint compatible with the scientific and technological developments of our age; a social blueprint that will give dignity and a new meaning to living.

Eddie is aware that his present existence is encompassed by a length of street car track to his job and a length of sidewalk to the corner beer emporium. In the near future his existence may be, once again, tied up with only one length, the length of street to the closest relief station. Eddie and his family are not a problem to the social system in which they live. Instead the Price System under which they live has become a problem to ALL AMERICANS.

When I left Eddie this time, I had a strong hunch that he was beginning to see the light.

'Natural' Technology

In England not so long ago, 16 miles of coaxial cable were installed 3 feet underground between two radio stations. The engineers soon discovered that the cable was leaking, losing much of the nitrogen pumped through it. Instead of digging it

all up to find the holes, they pumped the cable full of a gas that smells like the odor of cats, and then walked a dog over the route. The canine sniffed furiously, dug in 14 spots, and neatly "pointed out" the leaks.—'Telephony' Magazine, March 15, 1947.

The Vanishing American

Here Today — Gone Tomorrow

By Stella Key, 8141-14

'For the first time in human history the possibility exists for agricultural production, and industrial production, too, to become efficient enough to produce the goods needed for everyone to have health, education and the amenities of civilization. The way to the good life is not to hold science back, but to push it forward and adopt the social and economic devices that will increase its use and spread its benefits.' (Charles E. Kellog, Chief of the Division of Soil Survey, U. S. Department of Agriculture, in an article in the "Year Book of Agriculture, 1943-1947.")

John Farmer 'Goes To Town'

The vanishing American of today is not the native inhabitant of this Continent, the American Indian, but that last upholder of rugged individualism, the American 'dirt farmer.'

That seems like a contradictory statement, in view of his lush profits during the war. It would seem as though farming has at long last come into its own. Even *Fortune*, October, 1947, says so:

One of the great social and economic shifts of U. S. history, has in this time of the breaking of nations, gone largely unheralded. It is the radical change in the life and outlook of the American farmer, who has regained his birthright—in many cases with accrued interest. It has happened within a single generation and mostly within the PAST SEVEN YEARS. It is perhaps the greatest single factor now tending to assure the continued stability of the U. S. economy and the revitalization of the American spirit.

One should hardly take exception to such a profound statement, from such an authority of business trends and practices as *Fortune* magazine. We are not disparaging *Fortune*, or casting aspersion on its pronouncements, but we suspect that its outlook

is perhaps slightly on the side of wishful thinking and biased in the direction of that great symbol of American business, the dollar sign. We, therefore, do take exception.

Analyzed objectively, the above quotation is a series of contradictions and paradoxes in itself. A great social and economic shift has taken place in the life of the American farmer. But this shift has been going on for longer than a generation. It has merely been accelerated in the past generation, since 1910, when the peak of employment was reached, and particularly in the *last seven years*.

Therefore, there is no 'birthright' being regained; the farmer is merely being carried along on the tide of the great prosperity boom, based upon and caused by the greatest destructive war the world has ever fought. It has left in its wake a great hunger in Europe and Asia. Food and fiber is being shipped abroad by the train load to create scarcity here. Whereas in the Great depression the piglets were killed, and wheat and cotton plowed under for the same purpose. The New Deal policy of deliberately creating scarcity to raise prices during the 'Thirties' was amateurish in its effect, compared to the nice, lucrative Business brought on by the war. How much better for

the prosperity of the business of Farming is mass killing and destruction than peace.

The dollar prosperity of the *last seven years* is due directly, and almost wholly, to World War II. We do not say that the farmers who have benefited from this boom are in any way responsible for the War nor do we infer that they have been anything but sincere in their desire to produce food and make profits. If *Fortune* is correct in stating that this farm prosperity is the 'factor to assure the continued stability of the U. S. economy and the revitalization of the American spirit' then we must draw the obvious conclusion that War should be waged on a continuous basis. It is extremely doubtful whether the American farmer would care for that inference.

Bigger and Fewer

To continue with *Fortune's* analysis of the farmer. It admits that in spite of the fact that farm income rose from \$9,109,000,000 in 1940 to \$25,323,000,000 in 1946, about 80 percent of the national farm income is earned by only one-third of the 5,800,000 farms. The least prosperous third of the farm families earned an income of less than \$500 apiece. They also admit to 'the tremendous fact that fewer people are living on larger, more productive farms; that millions who were scratching a bare living out of the barren soil have moved to town jobs; and that a great tide of prosperity has suffused the ranks of the survivors. Americans are now harvesting 20 million more acres than they did in 1940, but there are three million fewer people on 200,000 fewer farms.' Continuing: 'The seeds of this revolution in American farm life were planted by the men who, in the years before 1940 brought mechanization to the farm, taught the farmer new methods of conservation, production and management, built automobiles and hard

roads, strung electric-power lines through the rural countryside.'

The foregoing is a concise picture of what is going on in agriculture. Fewer people on farms, farms are bigger because of mechanization and technological application to production. From there on *Fortune* deviates from the path of analysis and devotes the rest of the article to kidding the reader, trying to make him believe that the REVOLUTION on the farm is over, and that we will by some magic formula freeze it at the point where it is now. Their reasoning goes something like this: Most of the failures are now off the farm, the big farmers are making money, and are presenting a goal to strive for by all others.

Technocracy points out that when a trend has started, no man or group of men or established institutions will halt this trend. The trend in farming is toward larger and fewer farms. Mechanization on the farms will continue. The way to get more production is to employ fewer men and more machines. That will accelerate the trend toward still larger farms and still fewer workers on the farms. Even the farmer of today who has paid off his mortgage will eventually have to make way for the scientist and engineer who are more directly responsible for this high food production than is the dirt farmer himself.

Get While The Getting's Good

By the very nature of business enterprise, whether it is farming, coal mining or the grocery business, profits must come first. *Fortune* magazine has stressed throughout its article the *dollar profits* that have been made in the last seven years comparing it with former years. Thorstein Veblen was correct when he stated that 'Industry is the productive process of making goods; business is the predatory process of making profits.' Political ex-

pediency prompted Congress in 1862 to pass the Homestead Act and the Great Plains of the West were cut into 160 acre plots. This shortsighted policy of long ago and the desire for profits during World War I caused the prairie to be plowed under. The Dust Bowl of the Thirties was the sad result.

Today's high prices created what is known in the wheat belt as 'suitcase farming,' which threatens to create another dust bowl. The story of 'suitcase farming' is told briefly and succinctly by Paul Griggens in *Farm Journal* of August, 1947:

Big scale 'suitcase farmers' have plowed up two million acres or more of western grasslands during the past three years, to cash in on high wheat and flax prices.

As long as weather and high prices hold out, they are striking it rich. Many pay for their land and operations with one year's crop. But if it turns dry, the 'suitcase farmers' may expose huge areas to the threat of another dust bowl.

True enough, the land is helping furnish wheat for a hungry world. But the drought may come again—may start any day. And whether creating new areas of blow land is too high a price to pay for that wheat, the fact remains that **THERE'S NOTHING ANYONE CAN DO TO STOP THE PLOWS!**

'Suitcase farming' got its big start when large-scale combine operators sent their machines from state to state to harvest war-time bumper crops. Many of these operators bought or leased big tracts for quick profits. Some local farmers, too, broke new sod, but absentee owners account for most of it.

Worst of all, in the next drought these tracts will become islands of weeds, 'hoppers, and blow lands that will damage all good farms around them.

Technology Will Out

There is the picture of farming and agriculture as it is practiced under the Price System methods. It is also the

kind of operations which is hastening the day when farmers will be gone from the land and the picture of the Vanishing American of the Twentieth Century will be completed. The needs of today demand scientific operation of agriculture and the end of 'dirt farming.'

America's culture is based upon large scale operations and mass production. We know how to do things on a large scale, as witness the combining of wheat. This is told by Carroll P. Streeter in the same issue of *Farm Journal*, August 1947. No fiction can compare with the real story of this operation:

The last week in May, Harold Hofstrand, young North Dakota farmer, started off down the road at the head of a queer-looking caravan, bound for the wheat harvest in Oklahoma and the Texas panhandle.

Several thousand more farmers, in some 15 states and Canada, did the same. A few came from as far as New York and California, but most of them traveled north and south on a half-dozen arterial routes that have come to be known as the harvest highways of middle America.

These are the traveling combine operators. Some 6,000 of them crossed a state line last year, including 350 from Canada. There are as many or more this year. They'll be back home just in time to harvest their own crop, and maybe push on still further north.

With the northerners who return will come southerners whose harvest is done. A few will go as far as southern Canada. **IT'S THE GREATEST HARVEST BRIGADE IN THE WORLD.**

They slash their way through a vast expanse of wheat 300 miles wide and 1500 miles long. This 'field' straddles the 100th meridian, and spreads out over northern Texas, Oklahoma, Kansas, Nebraska, the Dakotas, and eastern Colorado, Wyoming, Montana.

The above operations are indicative of America's way of doing things. The only way to do things on this Contin-

ent is by big operations. But the very nature of such operations requires that America must not leave the responsibility to careless individuals who are merely seeking profits. The destiny of this Continent demands that these operations be controlled through the scientific and technological analysis of the needs of all people living on this Continent. The design of our technology requires an overall change of social operations.

Technocracy salutes the Technologists who have the 'know-how.' It also

serves notice and a warning to all those who cannot or will not see that the old methods of farming cannot be applied to the America of Tomorrow.

Fortune magazine titles its article: 'The Farmer Goes to Town.' Technocracy suggests that that is where he belongs. He is no good on the farm. America needs agrotechnologists, not 'dirt farmers.' And, first of all, it needs a new social concept—the kind of concept which you can get only from a study of Technocracy.

Signs of the Times

'Close to 90 percent of the metalworking shops in this city (New York) have idle facilities and are seeking additional work, the Commerce and Industry Association reported. . . . Further analysis of replies received from 132 firms of all sizes showed that only 13.1 percent are operating at full capacity, and of the others, 63.2 percent are running at 50 percent or less. Only six shops have two shifts in operation and none is working three shifts.' Chicago Journal of Commerce, May 5, 1948.

The Bureau of the Census estimates that of the 39,138,000 separate households in the U. S. over 2,500,000 have relatives, in-laws, or unrelated families doubling up with them. 'In addition to having whole families added to the household, there were lots of individuals roosting under another's roof. These persons were roomers, servants, men who came to dinner, etc.'—Chicago Sun and Times, February 24, 1948.

'Though farmer holdings of cash, bank deposits, and bonds are at record levels, these savings are concentrated in relatively few hands, with many farmers having only small amounts. Estimates show that on June 1, 1946, 10 percent of the

farm operators had 70 percent of the demand deposits and half had none. Ten percent of the farm operators had three quarters of the United States Savings Bonds held by farmers and half had none.'—Agricultural Situation, March-April, 1948.

'Competitive selling has spurred adoption in the textile industry of technological improvements largely held in abeyance during the prolonged seller's market. Conventional type looms, which were originally constructed to operate at speeds of 150 picks a minute, are now being stepped up to 220 picks. New looms designed for 240 picks a minute will probably set a pace for all loom makers to incorporate in their new machines or make possible by further refinements in existing looms.' A new type circular loom will soon be in operation. It manufactures a piece of cloth 125 inches wide, and produces about three times as much fabric as a flat-bed loom. (New York Times, May 16, 1948).

The U. S. News for January 9, 1948, states that it cost the American people \$54,300,000,000 just to eat in 1947. The per capita cost of eating was \$330. In 1939 it only cost \$121 for a full year's eating, per capita.

Who Are The Leaders?

Design vs. Men

In Two Parts—Part 2

By A. E. Borel, MAL

This article is an able discussion of the technological concept of leadership. Leadership by men is an old part of Price System operations. Sometimes it is camouflaged by being called Government by Law. This merely means government by man-made laws slanted to uphold the Price System.

The technological concept of leadership means governance by scientific principles. This presupposes a scientific design of operations. Men must direct operations but the only real leader is the design itself.

A careful reading of this article will enable you to answer that perennial question about the leadership in Technocracy, and the Technate. Copies of the last issue with Part 1 are still available.

Jack: Excellent, Frank, excellent. Following up your definition about the pattern, our social group in the pattern of its life, has passed from one vicissitude to another—wars, famines, pestilences, crime, hunger, sickness, poverty, disease of the mind. As we now look back on this troublous period in the history of mankind, we realize that, until the introduction and tremendous growth of extraneous energy and technology, a change was impossible. There was nothing that could be done except to follow the same old pattern. Many-a-one saw the deficiencies in this pattern, and many-a-one became a martyr trying to change it. But it was a hopeless and lost cause, because each one, in his turn, had an implacable foe—natural scarcity. However, this foe was not recognized for the deadly enemy that it is, and there would have been no means of combatting it if it had been recognized. Instead, all the shortcomings of the social group were laid on the doorsteps of the individuals of the group. Sad to say, today, the few alone have recognized the original foe; the many are still, today steeped in their 'traditions.'

Frank: Oh, I agree with you, Jack. Technocracy does seem to have a good design, but like I said, it is the leaders we are worried about. How do we know that they won't adopt the same abuses that have nearly ruined us as a nation.

Jack: Don't fret, Frank. I know the point you are trying to make. And that is why I have built up my story of the dam. All the threads have been pretty well gathered now, and I can make my point. In the building of the Technate you can see the same factors that went into the building of the dam. The faults of the old pattern had been long recognized, but the need for a change to a new design of operation was first discerned by the leaders of the group now known as Technocracy Inc. They did the spade work. They did not at first know what was the matter. So they did what a qualified engineer would do in building a dam, they used the scientific approach. They analyzed the situation, drew charts, made graphs. Slowly the story began to unfold. The questions would go something like this: What is incorrect? Since this is incorrect, what needs to be done? Since it looks like

the old system can no longer operate, what do we need in place of it? If it requires entirely new concepts, what kind of a structure must this new structure be, what must it do? All sorts of questions, you see, come up. By studying Technocracy, you will, of course, learn the answers to these questions, and more, you will find out how the leaders went about it to prove their points.

Having determined on the need and set an overall plan as to what the new structure must do, the question was: Where must this new structure be built? Of course, you have read that in their search for a location, they found the site for this new edifice must be on and include the whole North American Continent, and the northern rim of the South American Continent. In their examination of the foundation, they found that this area was equipped with certain ingredients, such as the lion's share of natural resources, an industrial plant with proved facilities for producing an abundance and a highly skilled and trained personnel, waiting only for proper organization and direction. In their investigations as to the form this new social structure must take, they were forced to the conclusion that the social group must conform to the same physical laws which apply to other physical phenomena. Upon this foundation, the design of the new social structure was projected.

And one of the chief considerations of that design is. Who will operate the design?

Once the design of a dam is put down for all to see, the original designers can retire from the picture. It is the design that counts, not the designers. So it is with Technocracy. Just like you have to alter details of the design of the dam as you go along, and any competent authority can do this, you understand that, so will the details of the design of the Technate

have to be changed to fit conditions as they develop, and likewise by competent authority. It is a Master Plan, but it could not hope to go into every little detail in the life of the social group which it is to regulate. That is the beauty of the design of Technocracy, it is flexible. It is not dependent on any human beings. Once the overall design is known, the ingenuity of man will fill in the rest. As for the qualifications of the designers, the fact that the structure they have projected is withstanding the assaults of prejudice, fear of change, and the vested interests, must prove that it is founded on the solid rock of natural science, and that its designers built well.

Who will operate the design? Any number of contractors and executives have asked that question of me. Invariably I have tapped them on the chest, and said 'You.' Why them? Let's look at the picture close up, not in the distant future when the plant is supposed to be operating efficiently. Let's look at it right now, today. What do we find? We find the Price System very near chaos. A program of change-over to another system must be adopted. Must there not be a period of transition, Frank?

Frank: Oh, I know we can't jump from our present setup into a Technate overnight, Jack. That's the question: How are the leaders of Technocracy going to take over?

Jack: Frank, the Organization of Technocracy has disclaimed time and time again that there is any intention on the part of its leaders to take over anything. They have stated time and again that they are an educational group. The design for the Technate is presented to the people of the United States and Canada, most particularly, and to all the people of the North American Continent in general. The Technocrats are not organized

to operate anything, even if they wanted to. The change of controls that will take place will, of necessity, be abrupt. As far as external appearances in the actual operation of the plant is concerned, an outsider might not even notice the difference. The prime requisite is that everyone in essential functions keep on working where he is and doing the same job. This is absolutely necessary, so that there will be no stoppage of any service or production. There will be this difference, the directing personnel will no longer be keeping an eye on the financial profit and loss sheet. It will be necessary to begin to produce at once for the General Welfare, and keep right on producing, not shutting down every time we approach an abundance, as is done by Free Enterprise.

Here is where the functional ability will make its appearance. Here we come to the testing ground. Here we come to that qualification I spoke of in the beginning: True leadership ability is functional ability, coupled with the necessary training. Many people have some leadership ability, but only a few have trained themselves to read the blueprint of the design of the Technate. All workers, all operational managers, will have to remain at their posts for a time. But, you can see that as monetary rewards will no longer be an incentive, to say nothing of being the prime moving force for many, these will gradually

and willingly relinquish their positions to others who are better qualified.

As for the necessary training, this does not mean that one has to be trained as a Technocrat. It merely means that one must have trained his mind to be open to facts, while at the same time he has trained himself to follow the scientific way of reasoning by investigating these facts. Such a mind can easily take the blueprint of the design of the Technate and follow it through. It will be of such minds that the functional leadership of the Technate will be composed. And that's the qualification we want, isn't it?

Frank: Yes, Jack, that is what we want. We have gone on long enough with the half-baked ideas of the politicians. You have made that matter of leadership plain. I can see now that the design of the Technate itself is the primary leader. The men who drew it up and those who will fill its most responsible positions are leaders only in the sense of functional ability. There is no chance for a 'man on horseback' to take over. There are no political avenues to power in a scientific design. From now on, I will be able to explain the idea of leadership to my friends. I am glad I had this talk with you. I'm going to do all I can to put Technocracy on the map.

Jack: Thanks, Frank. Be seeing you at the Section meeting.

Confession of the Price System

'European governments of the authoritarian type influence the thinking of their peoples by a controlled press and censorship. We influence ours by limiting the amount of information available to the people and resting our case on the published facts and "official view." It is almost as easy to influence public opinion that

way as by a controlled press.' (David Lawrence, Editor of 'U. S. News' in an editorial in that paper October 17, 1947.)

'There were 2 percent fewer cows on United States farms in 1947 than in 1946, but the 1947 cows supplied 3 per cent more milk.'—'Chicago Tribune,' August 11, 1947.

Ten Commandments Of The Price System

The Sixth Commandment

By The Peripatetic Technocrat

In previous issues the first five commandments of the Price System were illustrated. This article deals with the Sixth Commandment. It is 'Keep the churches busy with circumlocutions about the dead past and the unknown future lest they acquire sociological ideas about the living present.'

All Around the Mulberry Bush

The circumlocutions (long-winded, devious arguments) of theology are almost endless. In fact, the field of religious, moral and philosophical literature is perhaps the largest portion of all writing to date. One could spend his whole lifetime reading on these subjects and not get anywhere. The reason is because this material lies in the non-measurable field of metaphysics. It contains beliefs, opinions, guesses, etc., galore, many of them plausible, but very little that can be pinned down as verifiable fact. In the nature of the material, it must be so.

However, this does not affect its fertility. Every week or so, a new and more profound book on the subject that no one can know anything about makes its appearance. This is all well and good. It's a free country, isn't it?

Technocracy is not opposed to religion, morality, or philosophy. It simply wishes to point out that if a part of the energy devoted to metaphysical speculation were channelized into a physical study of social problems, it would soon be possible for every man to be his brother's keeper, in fact, instead of in fancy.

As Technology makes a deeper impact upon the ancient Price System structure, the social implications inherent in religion and morality make more insistent demands for expression. This is something new in the field of metaphysics. From time immemorial this field of human ideas has revolved

around the supernatural. Harry Elmer Barnes expresses it as follows in his book *Social Institutionss*

Whatever religion may become in the future, it has always embraced, in the past, man's interpretation of the nature of the hypothetical supernatural world. It includes the resulting efforts man has made to avail himself of the supposedly beneficial intervention of the friendly supernatural powers and to ward off the assumed malevolent influences of evil supernatural beings. In other words, religion has, thus far, been man's effort to adjust himself to the supernatural world in such a manner as to secure the maximum benefits and the minimum disasters therefrom.

New Ideas From A New Age

With the rise of science, the field of knowledge regarding this physical world became broader. This trend has continued and accelerated. Consequently, a cleavage has arisen in the field of religious ideas. An increasing number of people claim that religion should be more concerned with the here and now and less with the hereafter. President Hoover's Research Committee on Recent Social Trends in the United States, reported extensively on this point in 1934. Among the many observations made in this report is the following:

Churchmen have found it increasingly necessary to square their teachings with the findings of scientific

inquiry. In the words of Harry Emerson Fosdick "science today is religion's overwhelmingly successful competitor in showing men how to get what they want."

' Just how well the church has adjusted its doctrines to the needs of this Power Age can be gauged partly by the number of churches and church membership over the years. The President's Committee reported that: 'Since 1906 the number of churches in this country has not increased in proportion to the growth of the population.' Church membership, over 13 years of age, stood at about 59,000,000 in 1944, according to the *Statistical Abstract* for 1946. Since the population for 1944 was about 138,000,000, church membership of those over 13 years old comprised a little over 43 per cent of the total population.

The President's Committee reports that a survey by the Institute of Social and Religious Research reveals about 18 per cent of church members as being inactive. The report adds:

Only 59 percent of the adults living in cities of 25,000 and over were found to be church members in 1926 compared with 66 percent in 1906. In view of the rapid growth of cities, this loss of ground by the churches in the larger urban centers is of special interest.

A Mighty Fortress

While the church may have lost ground in membership, it is still one of the strongest pillars of the status quo. It preserves the ideas of remote, primitive ages. That is exactly why the Price System cherishes the Church and gives it a preferential position in the galaxy of social institutions. The Price System is interested mainly and always in preserving its ancient structure and Rules of Operation. In the Church, as a whole, it finds an able ally.

Thus, while the Modernists struggle valiantly against the Fundamentalists, it is the latter who call the tune in the church today, as of old. Harry Elmer Barnes observes in his book *Social Institutions*

Even friendly observers are impressed with the degree to which the Church devotes itself primarily to the perpetuation of its organization and the preservation of its status rather than to the improvement of human well-being and the spiritual uplift of its communicants.

Indeed any effort to advance the General Welfare has never been the function of the Church. Barnes observes:

Religion has never been primarily interested in the welfare of man... It has relied almost exclusively upon supernatural power, and since the rise of Christianity, it has been chiefly concerned with the future life . . . A case can be made for the service which may be rendered by religion in inculcating an interest in, and respect for such broad and scarcely debatable moral conceptions as justice, honesty, pacifism, cooperation, kindness, and beauty. However, it can scarcely be expected that the custodians of the modern order, who provide the chief pecuniary support for our religious institutions and organizations, will contribute with enthusiasm to a movement designed to cut at the root of many business principles and practices which they hold indispensable for the creation of wealth and power.

Yea, verily! Thou must always: 'Keep the churches busy with circumlocutions about the dead past and the unknown future lest they acquire sociological ideas about the living present.'

A congressman is an animal who can sit on the fence but still keep both ears to the ground.

Which Way Is Straight Ahead

Pattern For Social Change

By F. C. Glenn, R.D. 8943

You are what you are because other things are what they are. You are a composite of physical elements and environmental relationships. Beneath the composite you is a definite pattern that can be traced and identified.

North America is what it is because its resources, its technology and its people are what they are. It is a composite of physical elements and social institutions. Beneath this composite is a fundamental pattern that can be traced and identified.

If you are in trouble and want to find your way out, you must find the pattern that makes up the composite you. It is then possible to make a correct adjustment to the world around you.

If North America is in trouble (and how it is), it is necessary, then—. But, read the article for the answer.

Cause and Effect

It is usually said that we have 'five senses' through which the external world is perceptible to us. They are the vehicles for transmitting impulses and conveying information between the external environment and the brain. These senses operate according to physical laws.

The 'five senses' respond to certain stimuli, such as pressure, radiation, heat, chemicals and air vibration, producing the sensations of vision, feeling, smelling, tasting and hearing. From such direct contacts, one's whole mental concepts are built up. The 'five senses' work automatically in forming one's intellect, ability to know, and the faculty for perceiving the interrelationships of facts in such a manner as to guide and direct action toward the desired end product. These senses are the coordinators between things and events, and the center of perception and response. They are organized and correlated for the activities of life, and the mastery of the environment.

The sum total of previous experience is one's knowledge, acquired through the 'five senses.' Factual knowledge is acquired in no other way. The brain must first experience impressions from stimuli, striking the nervous system, which form patterns in one's consciousness in correct relationship with the forces emanating from the environment. This relationship of perception patterns to 'nature' must first be complied with before one can think, speak or act intelligently about the things around him.

While the 'five senses' work in a marvelous manner, they are not perfect and must be supplemented with technical instruments when delving into physical phenomena beyond their range. These instruments, seemingly, are never precise enough for all our needs, requiring ever greater precision in this technological age of increasing rate of energy conversion. When the engineers design and construct new instruments through which they can delve into nature's phenomena beyond the limits of the old, then nature exhibits the secrets sought for.

In the perfection of these instruments, clearer and more concise understanding is achieved. Certain physical phenomena exhibit themselves to the human consciousness only through instruments and processes. Physical laws are the determining factor in the construction of these instruments. The scientist, inventor, chemist and engineer spend hours, days, years, much effort, in changing combinations, assembling and integrating matter and energy, seeking the answer to physical problems. The correct answer lies in the correct physical relationships. That answers found in this way are correct is evident in the working of the machines and processes, which make goods and services in this machine age far more abundantly than could be done in the agrarian age of hand tools

Nature Is Uniform

Just as physical laws operating on snowflakes form designs in a hexagonal shape, so do other physical laws dictate how man must operate in his environment. His operations are confined within the three dimensions of length, breadth, and depth, and in time. Bound in the patterns of physical law, he can think and act. He is compelled to direct his thinking within the channels of his 'know-how.' He is not 'free' to think beyond the realm of his own knowledge.

'Nature' does not let him exercise any other choice of behavior. While some may claim and others may agree that we do many different things, this claim often reaches into the realm of fancy. For example, the engineer on a railroad train claims he runs the locomotive. This is a mere figure of speech, for through the mechanics of degrading energy, the engine is compelled to move. For acceleration, the engineer moves the throttle. For deceleration, he moves the brake handle; the power in the braking system stops

the train, not the engineer. Knowledge directs; the machine does the job.

Under political propaganda and clerical moral suasion, egos are inflated with beliefs of being free moral agents, that one is free to choose freedom. But 'freedom' is not chosen. Through machines, freedom from toil is achieved. Freedom from insecurity for all can be achieved when the citizens of North America acquire the will to adopt the scientific method of production *and distribution*, the design of planned progression demanded by the job to be done. Investigation of Technocracy's blueprint of operation clearly reveals the way.

The scientific attitude is not to search for solutions in mystical views of life, in ancient rituals and superstitious concepts, in the trial-and-error methods of political philosophy, nor in the mystery of money and its prerogative of debt creation. With the scientific viewpoint, one sees the futility of these. Science demands that we look for the solutions to problems in the working of physical laws. In applying these to the demands of the job, solutions are achieved. There is no other way.

Freedom Is As Freedom Does

An object in motion can take the direction of a straight line movement or be modified by one or two other forces. The straight line has one dimension—length. One of the permissible variations is the curve, resulting from the combined operation of two angular forces arriving at a dynamic balance, which confines the two merged factors within a given area, the curve, the circle. Another combination is the addition of a straight line movement at right angles to a plane of circular motion, thus forming a spiral, as the threads on a screw. The spiral results from the combined movements of three straight lines.

Social change received its greatest acceleration when Watt changed the straight line reciprocating motion of the piston through the connecting rod and confined it in the area of circular motion, the fly-wheel of the steam engine. There the mastery of the environs by the engineers received its first great impetus.

Today society is regulated under three laws: physical, legal and moral. Moral law takes on the quality of being passive and in conformity to changing opinions. These opinions are often nurtured in absurdities, ancient beliefs and negative concepts. In such a conglomerate of confusion, along with varying human emotions, the groundwork is laid for the dissensions of today.

Legal law pertains to changing definitions, dissensions, claims and agreements, and is based on the concept of master and slave. It may be interesting to note that a definition is an 'arbitrary agreement among men.' Dissensions and changing definitions breed confusion and make it impossible to know where we are going or what we are going to do when we get there.

Physical laws permit no dissensions, cause no confusion. Their harmonious

relationship carries its own agreement and in their operation is the mandate that the decision must be correct. In mathematics, all agree that two and two equals four. In the functioning of physical laws there cannot be disagreements. No one disagrees with the plumb line, the transit, the square. If we wish to make correct decisions, we must make accurate measurements. Physical laws have no emotional characteristics, recognize no class distinction, play no favorites. Technocracy points out that in a scientifically operated society, physical laws will serve all.

Technocracy, with its vast accumulation of data relative to physical laws and energy determinants, has pointed out the correct direction to the New America. This road lies straight ahead along the technological way. It is the only road to Abundance, Security, and Equal Opportunity for all citizens.

Howard Scott has said: 'The aspirations of human society on the North American Continent must be but the projection of the technological pattern of this Continent.'

There you have it. That means straight ahead. More and more technology is the answer to North America's social problems.

File Under Waste

'Extensive measurements have been made of the erosion damage that driving raindrops can inflict on bare spring fields, on gardens, and on freshly seeded lawns . . . A good rainstorm, given half a chance, can splash away a hundred tons of soil per acre, where that soil is highly detachable. Pelting raindrops in a severe storm can splash soil particles as high as two feet in the air or hurl them five feet horizontally—on level surfaces. They can then drift from a few to several hundred feet downslope, or be carried off entirely by

moving surface water.'—'Science Digest,' October, 1947.

'Millions of tons of coal are being burned in the United States in vast uncontrolled underground fires.' The Bureau of Mines estimates there are fires in 'probably several hundred' of the 7,000 coal mines in the U. S. It is estimated that about a million tons of coal are consumed by underground fires each year. Other uncounted millions of tons have been "tied up" or made inaccessible by the fires.'—'New York Times,' January 18, 1948.

The Great Rehearsal

By Carl Van Doren

Reviewed by William B. Hesseltine, professor of American history at the University of Wisconsin. Reprinted from "The Progressive," March, 1948.

For some years now we have been witnessing the efforts of one-worlders and atom-neurotics to argue by analogy that there ought to be world government based on the example of the United States of America. These proponents of world federalism present an analogy between the formation of the American Constitution and the present day efforts to form a world government. They argue that the 13 colonies, united for the purposes of the Revolutionary War, formed a 'more perfect union' at the close of the war under the Constitution. Therefore, they contend, the 55 nations of the world can make and operate a world constitution. Since the American states gave up their sovereignty to make a nation, so the nations should give up their sovereignty to make a super nation.

This is the basic theme of *The Great Rehearsal*. Fortunately, for the value of the book, the attempted-analogy is confined to the preface, wherein Carl Van Doren argues that the problems of 1878 and 1948 are essentially similar and that the Philadelphia convention was only a 'rehearsal' for a greater, world-wide constitutional convention. . . .

When the founding fathers met to 'amend' the Articles of Confederation, political considerations induced them to keep their sessions closed. The official journal of the convention is a mere skeleton, recording the subjects discussed and the actions taken. Some of the members, notably Madison, Yates and King—probably also actuated by political considerations—kept fuller notes.

Eventually these notes came to light, and long ago Prof. Max Farrand collated them in his *Records of the Federal Convention*. Mr. Van Doren has, in effect, 'written up' Farrand's Records in a narrative form. . . .

Although he does not quite—at least not explicitly—conclude with some of the older historians that the Constitution was of divine origin, his reverential treatment of Washington, Franklin, Hamilton, Madison, and the rest leads to the implicit conclusion that they were demi-gods. Moreover, his failure to analyze motives, to assess economic forces, or to evaluate social factors in the 1787 situation makes his analogy with 1948 completely untrustworthy.

This, after all, is the defect in any argument from analogy. The attempt to equate the situation in the U. S. in 1787 with the world of 1948 is, for the most part, a mere juggling of words. The unfortunate fact that two different things can be described in the same words leads inevitably to the muddled conclusion that the two things are the same.

The argument of the world federalists who find analogies between 1787 and 1948 runs about as follows: 1) the United States in 1787 was on the verge of chaos under the weak Articles of Confederation, 2) the people sent 55 great men and true to Philadelphia where they made the greatest governmental instrument ever struck off by the brain and hand of man at a given time—and, of course, under divine guidance—and that 3) they labored mightily with one another to settle all their differences, and 4) the Constitu-

tion alone made possible the happiness of the nation.

Actually, none of this is wholly true and some of those who are now claiming that the world can only be saved by a new world constitution know that the traditional picture is false. In fact, as the analysis of Beard or Jensen (or even the testimony of Washington) show, the U. S. was not on the verge of chaos under the Articles of Confederation at the eve of the Constitution.

The years between the Revolution and the Constitution were depression years. But business was reviving,, commercial men were finding new trade routes and new markets, and prosperity was returning to the land. Moreover, the Government under the Articles of Confederation was solving its problems;; it was finding new sources of revenue in the Western lands, it was providing for their settlement, it was handling its Indian problem, and its foreign relations were being worked out satisfactorily.

The reason for the Constitution was not the failure of the Articles of Confederation, but their probable success! the Articles of Confederation were not designed to protect business, **and the business interests of the nation wanted a stronger government which would protect them against the ravages of too much democracy.** (Bold face theirs.)

In the second place—continuing the catalog of errors of the analogy makers—the Philadelphia Convention was not representative of the whole American people. It was comprised of the leading merchants, of shippers, industrialists, money lenders, and the slaveholders of the country.

In the third place, the Philadelphia Convention did not wrestle mightily with conflicting problems. The 55 men there assembled knew what they wanted, and they agreed that the Federal Government should have power over trade, commerce, and foreign

affairs. They argued and debated over means, not over ends, and the Constitution they drafted was made up of parts which, they knew from experience, would secure the economic ends that they desired.

Despite the arguments of the modern federalists, the several states did not surrender their sovereignty to an all-powerful super-government. The states delegated certain specified powers for the common good to the Federal Government and they reserved all other powers to the states or to the people. The Constitution set up a government of limited, specified powers.

Finally, the Constitution was not necessary to save the nation. It would have existed, with union, anyway. **But it would not have existed in the way the business interests assembled at Philadelphia wanted it.** (Bold face ours.)

If those who would make analogies would turn to analysis, they might find some pertinent consideration in the situation in 1787 which favored union. There were, in America, 13 states that had been united in a war against British misrule. They had an existing, if imperfect, government. Moreover, it was a permanent union, and they were all agreed to keep it.

In addition, the people of the states were homogeneous. They had a common language, a common political tradition running back into English experience, a common literature, a common religious viewpoint, a common economic system based on agriculture, a common code of law, a common set of governmental institutions, common educational concepts, and common ideals. Given these things, the Constitution of the United States was a relatively simple solution of a governmental problem, and unity was easy.

The forecasts of the U. S. Weather Bureau run about 85 percent correct.

It Doesn't Make Sense

Short Story on Futility

by Stella Key, 8141-14

'The man who can make two ears of corn, or two blades of grass, grow on the spot where only one grew before, would deserve better of mankind, and render more essential service to the country, than the whole race of politicians put together.'—(Jonathan Swift (1667-1745), author of "Gulliver's Travels.)

Quadrennial Circus

This is a presidential election year. Nothing unusual about that. It has been going on now every four years for a long time. Well, so what, you ask? Just this. No national problem or issue has ever been solved by this process. It offers diversion from the monotony of yearly elections of the local leeches, and provides them a free ride on the coattails of the national Big Names. Until about a generation ago, it never mattered too much as social problems were simple. It was sincerely believed that politics had something to do with the destiny of the nation. In any case, there was always the West to expand to when politics failed. However, now, we have just passed through the most terrible war in history, in an attempt to dissolve social problems that politics had been unable to solve. What's worse, the outlook for the future is very grim. Nevertheless, the parade of gagging goburras and polyphonic pachyderms goes on. It doesn't make sense.

This year the parade is going to be bigger and smellier. All those hybridizing hybrids, those political malcontents, from both parties, are preparing to rally around their respective banners. Each party will tell you that they are going to solve your problems. But they can offer nothing better than the same political futility

that has failed before. At best, these political binges merely provide a smokescreen to hide the real issues. What is worse, they actually prevent the public from learning the real facts. It doesn't make sense.

Millions of dollars will be spent by both parties to uncover any 'dirt' about the candidates running for the other parties. By the time the campaign ends, every one running for some office, according to the opposition, should either be in jail, in a psychopathic ward, hung, gassed, or sent back to Russia. Every candidate concerned is a heel and a stinker, of several kinds and varieties all at the same time. A few days before election, the public is cajoled, intimidated and begged to vote, vote for anybody at all, just vote. The public is reminded that no other people in the world have the privilege of voting for such a select choice of sterling citizens, etc., etc. As soon as the election is over and some Name has been elected to occupy the residence at 1600 Pennsylvania Avenue, Washington, D. C., that Name, who shortly before was called everything that decency and libel laws would allow, becomes the great Leader. Every syllable dropped from his lips becomes copy for the news reports. It doesn't make sense.

Put Away Childish Things

When children play Make Believe, it is a normal and healthy behavior.

Their imaginings are indulged in as far as their capacity will allow. When an adult plays Make Believe, he is either compensating for frustration or as an escape from reality. A stein of beer or a highball usually helps him in playing the game with others like him. But he is no longer as honest with himself as when he was a child. He then called the game for what it was—'just pretend.' When a people indulge in that same game of 'let's pretend' on a national scale and elect others of their own kind to help them in the game, then the result can be nothing but chaos. There are too many people today who cannot seem to get over the philosophy that some self-interested individual, or party, is going to be concerned with his problems. It doesn't make sense.

One of the basic laws of biology is that an organism must change and conform to its environment or it dies. We human beings comprise one of the most complex of organisms, but the law applies to us as well as to the most simple organism. Our physical environment in North America has changed in the last few generations.

It has changed from a handicraft agrarian economy to a complex, gigantic, industrial society. Social problems are technical problems now. They cannot be solved by the political methods developed in a handicraft agrarian age. We must conform to this changed environment or face such chaos as we cannot even imagine in our wildest nightmares.

Technocracy invites all those with a little intestinal fortitude to come into Technocracy and investigate. Find out for yourselves just what is meant by 'social change.' We do not ask you to believe anything. Technocracy is no namby-pamby organization with a complicated ritual to learn in order to protect some moth-eaten and useless concepts. It is composed of pioneers of the New America. Come in and kick it around if you can. We dare you. The time to learn about yourselves and your institutionalized beliefs is now. What are you waiting for? The change is all around you. Get the blinders off and look. Technocracy will show you where you can get the correct answers to social problems. This does make sense.

North Americana

'Eight vegetables found under cultivation by the Indians when white men came to this country are now leaders in their class of produce. They are beans, corn, peppers, potatoes, pumpkins, sweet potatoes, squash and tomatoes. From the Old World first came cucumbers, eggplants and mushmelons. Watermelons, okra, asparagus beets, and brussels sprouts are of European origin, as are cabbage, carrots, cauliflower, celery, kale, collard and kohlrabi. Other foreign vegetables are lettuce, leek, onions, parsley, parsnips, peas, radishes, salsify spinach and tur-

nips.'—'Central Manufacturing District Magazine,' Chicago-Los Angeles, September, 1947.

'Fifty-six per cent of American Telephone and Telegraph stock is held by women. Two-thirds of all privately owned war bonds bear a woman's name. Sixty-five per cent of mutual savings bank accounts are held by women. Seventy-four per cent of suburban homes are held by women.'—James F. Bender, director of the National Institute for Human Relations, in an article in the 'New York Times Magazine,' August 10, 1947.

From The Camera's Eyevuew

We Live In A House Of Cards

The painting below, by Benton Clark, depicts Ely Whitney demonstrating the assembling of muskets from interchangeable parts to President John Adams, cabinet members and Army officers. Ely Whitney made the first machine tools for mass production. That was in 1798. Since then 150 years have gone by. A type of culture characterized by machine tools has grown up in North America within the framework of the ancient Price System. Its fundamental principles clash with the operating rules of the Price System.

Technology has now reached a point of development where the production and distribution of abundance, security, and equal opportunity to all citizens is easily possible. This desirable condition, however, cannot be realized because our controlling social institutions remain rooted in the past. This antagonism between technology and social institutions has made our whole civilization progressively more unstable. It is at the root of 95 percent of nearly all our social problems. Today the North American Price System is overripe for a complete collapse. Something's got to give, soon.....

Photo: SKF Industries, Inc.





Photo: Ford Motor Company

Here's some real mass production with precision, made possible by machine tools. Camshafts emerging from automatic grinders. Maximum tolerance is $\frac{1}{2}$ of 1,000th of an inch. More than 5,000 are turned out daily at the Rouge plant.

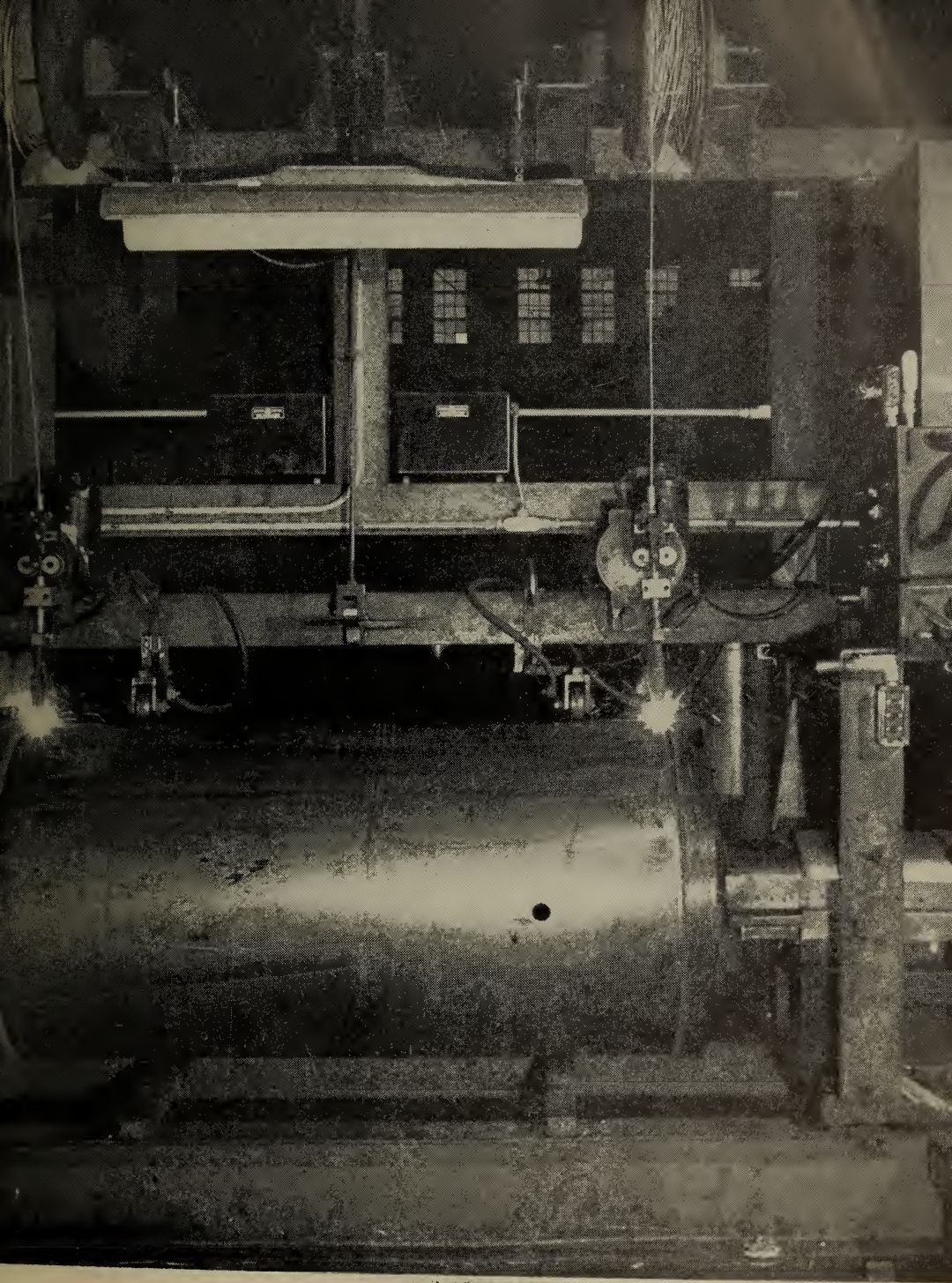


Photo: General Electric Company

Gasoline tanks 68" long by 36" diameter are automatically welded at both ends at once in two minutes. Tank is automatically centered in fixture and rotated. Thyatron controls keep constant arc voltage. Operation stops itself when finished.



Photo: United States Instrument Corp.

Lilliputian electric motor, $3/16$ " in length and diameter, requires $1\frac{1}{2}$ volts, runs at 7,000 rpm. Completely unorthodox it's made possible by new type 'gap-ring armature.' Slightly larger models will be produced for the toy industry.



Photo: U. S. Steel Corp. Subsidiaries

Tiny or huge it's all the same to technology. Here's an ingot of more than 1,000 cubic feet of solid steel being lifted from the mold. It was forged into a bottom unit for a magnet in a giant atom smasher for the U. of Rochester.



Photo: United Air Lines

Technology is more than big or little. It's also control. Here's control on a Douglas DC-6. It carries 56 people and 2 tons cargo at 5 miles a minute with 4 engines of 8,400 total hp. In a case like this you either have control or chaos.



Photo Lockheed Aircraft Corp.

Technology is also testing. This installation tests airplane landing gears. Actual landings are duplicated by machine, automatic records are made of each test. If you want to know you must measure. The same goes for social problems.



Photo: U. S. Treasury Department

The Price System house we all live in has as little stability as this house of cards. When the right combination of events occurs it will collapse. To avoid chaos then we must install technological social controls. If eventually, why not now?

Without Money and Without Price

By A. E. Borel. Mal

Do you remember the story of
the 'half-wit' lad? How the kids
Amused themselves by offering him
The choice between a nickel and a penny
And he always chose the penny?
When the story teller quietly
Asked him why he chose the penny
Instead of the nickel, he replied:
'If I took the nickel,
They wouldn't play the game
With me anymore.'

He was not so dumb,
But we Americans have been
Acting like we were half-wits.
Since 1932,
Technocracy has been showing us
How we could get big T-bone steaks
Instead of puny ground-beef
Wafers on a bun.
But we have thought that we were
So wise; we just said:
'It won't work;'
'It can't be done;'
'It's too good to be true.'
We scoffed at the abundance
Which Technocracy
Offered us for the taking.

The boy in our story was right.
If he took the nickel,
The game would be over.
But this is a different
Kind of game; for,
Once we choose abundance
And leave the scarcity behind,
Abundance will be provided us
For evermore.

Let us show you further
What we mean.
You have a sick child, we'll suppose.
You can't afford to call a doctor
Everytime a child is sick.
You wait to see what happens

Until the child is almost gone;
Then you call for expert help.
How many times was the doctor
Called just a little bit
Too late?
How different would Technocracy
Be than this?

In the Technate
Every one will work together
For the benefit of all,
And no one works for just
Himself alone.
Then, all the doctors have to do
Is to keep you and your children—
All the children and the rest of us
Healthy.
He need not worry then about
Getting patients enough
So he can pay his bills
And have a little luxury on the side.
That's the way of technology.
All medical service shall be free,
'Without money and without Price.'

Did you ever feel like kicking
The radio announcer in the shins
When he spouted
'Visit your dentist twice a year'?
Sure you have;
You hate the dentist bills.
The poor kids would go until
You could poke a finger in the
Cavities before you took them
To the dentist, if at all.
And botch jobs they'd do sometimes.
We've lost good teeth because
Some dentists sought to make big profits
From his work and fixed the teeth
So that we had to come again.
Do not blame the dentist,
At least not too much;
He is only playing the game as
It was taught to him.

What would Technocracy do
In place of this?
In a Technate, everybody
Works together for the benefit of all;
And no one profits from the
Miseries of other human beings.
The dentist can give your child,
And you and all of us,
The dental care we need,
And it would be free,
'Without money and without price.'

How about our education?
Pretty glum picture now-a-days—
Unhappy teachers, crowded schoolrooms,
Scarce supplies;
A superstitious fear
Of exposing 'tender minds'
To the facts and problems
Of this life we live.
Knowledge is withheld,
Evaded or falsified to serve
The ends of propaganda.
And college? How many can
Afford a luxury like that?
What will Technocracy do
To change this state of things?

In a Technate,
Everybody works together
For the benefit of each,
And each for the benefit of all.
The teachers will be honored
With a high responsibility.
They will have dignity
That befits a citizen
Of this great land of ours.
They will not have to go
Begging to schoolboards
For a pittance as though
They were asking for charity.
For, the best of facilities
And pleasant circumstances
Will be provided.
Noble and important work
They will do; and your child,
My child and everybody's
Children will get the benefit.

Are you catching on?
In a Technate, everybody

Helps do things for
Everybody else
On the basis of
'All for one and one for all.'

We could go through all
The functions of the Continent—
Through all the Sequences
and the branches of each one;
Agriculture, Transportation,
Building, Social Service, Health,
And all the rest.
The story would be the same
For all of them.

Where would you work?
You have a chance of
Trying out for any job
That you prefer
On equal terms with all
In the Sequence of your choice.

Yours would be the duty
As a citizen of the Technate
To do your share
In the operation
Of the Continent.
A very little time, indeed,
Would be required on your part
With machines to do the work.

How would we all
Get paid?

As each has a duty to perform,
So each shall have a share
In the abundance
That's produced.
This will be the right of
Every one who is a citizen
Of the Technate.

Technocracy offers you
Freedom from toil,
Education and health
That is the best,
Abundance of all things
You need for life and play—
A standard of living higher
Than man has ever dreamed of—
'Without money and without price.'

There is not another
Organization
On the face of the earth
Which can give substance
To this objective;
And it is here for all of us
As soon as we agree
That it is what we want.

If this is your desire,
Join Technocracy.
Learn about the New America
And how science and engineering
Can be applied to living;
Help to bring abundance
To a Continent.

Oh Canada!

'Canadian oil experts are being quoted here (Lake Success, N. Y.) as saying that the Le Duc oil field near Edmonton, Alta., is potentially richer than Middle Eastern fields and could adequately supply the United States in event of war. . . . According to information here, Canadian petroleum experts have surveys which already disclose a field of 30,000 square miles, with an estimated total yield of 100 billion barrels.'—St. Paul Pioneer Press, March 3, 1948.

'Government geologists both in U. S. and Canada point out that Canada has the greatest oil known reserves on earth locked up in bituminous sands in northern Alberta. It is estimated at from 100,000,000,000 to 250,000,000,000 tons, according to the official Canadian government Year Book. . . . These bituminous sands are located at McMurray, northernmost railroad, and stretch over an area estimated at 115 by 55 miles.'—Chicago Daily News, February 19, 1948.

'Industrial expansion in Canada is going ahead as rapidly as materials and machinery can be obtained. More than 5,000 new factories have been built since 1939. Most of Canada's 25,000 prewar plants have been or are being enlarged. . . . Investment in construction, machinery and equipment is running at four times the prewar rate.'—U. S. News, April 30, 1948.

'The people of Quebec believe in the sober principles which stand for progress not of an ephemeral order but a progress based on sound and lasting rules. Pseudo philosophies of State interference in every

phase of life find no encouragement in the Province of Quebec.'—Extract from a full page advertisement of the Provincial Publicity Bureau of the Province of Quebec in the Toronto Financial Post, February 14, 1948.

'Quebec is very generous, more so than any other province, but I don't believe, in fact I am sure that we have no right to create churches or meddle in religious affairs. . . . The religious and school laws of the province of Quebec are very broad, very generous and those who cannot or do not want to obey them only have to establish themselves elsewhere. . . . Furthermore Quebec wants to keep its present character.'—Part of a statement by Maurice Duplessis, Premier of Quebec, to a committee of the legislature in refusing to grant a federal charter to the Apostolic Church of the Pentecost to operate as an ecclesiastical corporation in the Province of Quebec. (As quoted by the Toronto Star, February 10, 1948).

'All natural movement on the American continent is north and south. It is the direction of movement of the buffalo and of geese. Nature put hard wheat in the north, and fruit in the south. We cannot separate north from south for much longer. Either we must get an economic union with the United States, or the people of Canada will demand political union.'—George Ross, chairman of the National Council of Canadian Beef Producers in a recent talk to a meeting of Alberta ranchers at Lethbridge, Alberta. (As quoted in the Chicago Tribune, April 15, 1948).

Flashes Of American History

By Ben H. Williams, 8141-15

Uriah Stevens' Dream

The scene is a dingy loft of a Cooper Square building in Manhattan in the spring of 1908. It is past midnight. A raiding party enters through the fire escape window, seizes an article of furniture, and departs by the hall doorway with the same, leaving a half-awake occupant of a couch unable to offer but a feeble protest. The article taken was a small desk, worn and battered with age and use, and completely empty. But some thirty or more years prior to the above date, a humble tailor with a great dream sat behind that desk. The tailor executive was Uriah Smith Stevens, founder of the Noble Order of the Knights of Labor. Stevens long since had passed from the scene; the Knights of Labor later had followed its founder into oblivion, and now two rival organizations, each nursing some part of the Noble Order's tradition and each in turn headed for that same oblivion, were fighting for possession of an historic antique.

The Dream At Its Inception

In 1869, when Stevens and some eight other clothing workers met on Thanksgiving Day in Philadelphia to form a 'labor lodge,' the United States of America apparently was ripe for the type of organization they had in mind. Advancing technology everywhere in industry was wiping out skills, causing long-apprenticed mechanics among others to be uneasy as to their future status. Corporations, destined to great size and with interlocking directorates, were looming large upon the horizon.

To meet these and other conditions, labor, according to Stevens and his associates, must be brought together in One Big Union, embracing all wage workers and their 'sympathizers.' There must be no exclusion on account of nationality, color, sex, or any occupation except those of lawyers and saloon keepers. The union was to be

a secret society or 'lodge,' symbolized by 'five stars,' its name known to members only, its motto 'An injury to one is the concern of all.'

The reasons for secrecy seemed imperative. Labor unions at that time were treated by employers and by the general public as outlaw organizations. For instance, back in 1864, in Detroit, an 'Employers' General Association of Michigan' was formed to 'fix, grade, and regulate wages and to set minimum prices to be charged for its commodities.' The preamble to the constitution of this employers' union attacked labor unions as pernicious and dangerous because 'as a natural result of this system of general and persistent interference our business is thrown into a condition of much uncertainty. Business-like calculations and arrangements, especially such as involve prices for work, and time of completion and delivery, are thus rendered quite impracticable. If continued for any considerable time, it (un-

ionism) must result in widespread beggary, with all its attending evils—suffering, bread riots, pillage, and taxation.'

The Master Mechanics of Boston (1867) and the New York Master Builders' Association (1869) followed the Michigan society's lead, with similar pronouncements. A few years later, in the early '70's, with depression conditions and intensified competition among manufacturers, the latter made savage use of the lockout and the blacklist to crush attempts to organize unions. At the same time, the executive and judicial powers of government everywhere were at the service of employers in their conflicts with their employes. Only in secret, therefore, could workers hope to organize successfully. So they thought. Even here employers had ready at hand another effective weapon in the form of the detective agency, such as Pinkerton's, which had contributed to the breaking up of that secret terrorist organization, the Molly Maguires of the Pennsylvania coal fields.

The Dream Materializes

Uriah Stevens' dream began to materialize in spite of these and other incipient difficulties. The 'Five Stars' shone with increasing magnitude during the late '70's, and finally near the end of that decade came out from behind the veil and became known publicly as the Noble Order of the Knights of Labor.

In the ten years from 1875 to 1885, the K. of L. flourished, attaining a membership in the latter year of about 700,000. In that period the Knights invaded many industries, conducting successful strikes in mining, transportation and others. Most spectacular of its self-styled victories was that against the Gould system—the 'Missouri,' the 'Missouri, Kansas & Pacific,' and the 'Wabash' railroads in 1865. These had followed two success-

ful strikes against the Union Pacific in 1882 and 1884, and the 'capitulation' of Jay Gould was heralded as the 'greatest victory of a labor union to date.' So inept was the leadership of this One Big Union, however, that it made no attempt to consolidate its victory. Terence V. Powderly, who had succeeded Stevens as head of the order in 1879, was contented with the railroad company's assurance that 'no discrimination would be made against K. of L. members,' and meanwhile he (Powderly) was so alarmed over the mounting membership of the Order following these victories, that he took steps to check the avalanche, fearing a possible Frankenstein monster. Simultaneously, press and pulpit sounded the alarm over the possibility that the K. of L. might use its power to 'stop entire industries.'

Enter: Radicals

While this rising tide of union expansion was causing alarm and apprehension among employers and their satellites, the Noble Order itself was being invaded by elements, other than stool pigeons, who were destined to contribute considerably toward its ultimate downfall. These came in the persons of immigrants from Europe, bringing with them the various and diverse social philosophies than prevalent in the 'old country.' True to the traditions of its founders, the K. of L. sought to embrace all immigrants without discrimination, and shortly found itself infested with every type of radical and revolutionary. Newspapers, magazines, pamphlets, and soap-box orators circulated in great quantities and numbers, peddling every variety of philosophy from that posing the mildest social reform to the most virulent advocacy of anarchism and nihilism.

It is not generally known that the decade of 1875-1885 was the heyday of radicalism in the United States, and

that the Knights of Labor was the medium through which that radicalism flourished most extensively. In vain did Powderly and other leaders try to stem that tide. Following the Gould victories workers flocked to the Knights in great numbers, singing their famous song:

Toiling millions now are waking—
See them marching on;
As the tyrants now are shaking,
Ere their power's gone.

Chorus:

Storm the fort, ye Knights of Labor,
Battle for your cause,
Equal rights for every neighbor,
Down with tyrant laws.

The Eight Hour Movement

Then came (spring of 1886) the Eight Hour Movement. This had been brewing for some time. In the form in which it now appeared it originated at a convention of the Federation of Organized Trades and Labor Unions (forerunner of the American Federation of Labor). At that convention, a delegate from the Carpenters, Gabriel Edmontson, offered a resolution stating that beginning on May 1, 1886, 'eight hours shall constitute a legal day's labor.' The F.O.T.&L. hoped to enlist the numerically powerful K. of L. in this move to strike for the eight hour day on May 1, 1886. That hope was realized. Rank and file and field organizers of the Knights took up the cry with enthusiasm. Powderly, however, opposed it, sending out secret circulars, one of which stated in part:

No assembly of the Knights of Labor must strike for the eight hour system on May first under the impression that they are obeying orders from headquarters, for such an order was not and will not, be given.

The agitation for the eight hour day reached its peak in Chicago, with that city's many thousands of organized workers in the K. of L., the Railway Brotherhoods, and others. Here also existed various factions of the International Workingmen's Association, organized in London by Karl Marx in 1862. Extremists among these elements developed what they called 'The Chicago Idea,' in which they scorned legal bargaining methods and collective bargaining, advocating instead open violence and terrorism. This 'Black International' carried on ceaseless agitation to small numbers of listeners up to May 1, 1886, when thousands of workers went on strike as per schedule. The strike apparently was successful in many places in and around Chicago.

The Haymarket Riot and Reaction

On May 4, 1886, while strikes were on at McCormick Harvester works and elsewhere, an open air meeting was held in Haymarket Square, Chicago, addressed by leading anarchists. The meeting was small and without incident until near its close, when a squad of police from the station nearby sallied forth and began clubbing the attendants right and left. In the midst of this one-sided melee, a bomb was thrown by some one whose identity was never established. A number of policemen and bystanders were killed, and the public hysteria followed.

Not only were a half-dozen anarchists taken into custody, charged with the crime, but the entire labor and eight-hour movement was brought into disrepute. The officialdom of the K. of L. vied with the daily press in condemnation of the anarchist leaders, but ironically enough, the Knights got most of the blame, and immediately hit the skids of a fast-declining membership.

Conclusion

To conclude from the foregoing brief narrative that the K. of L. was a mere impotent gesture across the face of time would be a mistake. On the contrary, it was a significant part of that social process whereby the most individualistic and hardest to unify nation of people in the world will finally be brought into mass formation. That will be, not through One Big Union of workers, struggling in vain against poverty and scarcity, but by an overwhelming surge of the American people toward their heritage of abundance, which technology not only has brought to their vision, but has forced upon them. At that time,

the Noble Order of the Knights of Labor and its founders, Uriah Stevens, will deserve a monument for their brave adventure into the American maelstrom.

Our next 'Flash' will treat of a somewhat related and significant movement of American farmers. Its title 'The Agrarian Revolt.'

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Is Is More Blessed To Receive

Britain is down for 218,260,000 pounds of tobacco under the Marshall (give away) Plan. The tobacco costs the U. S. Government about \$119,000,000, which is provided, of course, by American taxpayers. However, it doesn't cost John Bull anything. It's given to him as a part of the 'European Recovery Plan.' Here's how the 'recovery' works. The British Government takes the tobacco and then imposes an import tax of \$11.74 a pound on it. Having performed this important Price System operation the British Government then sells the tobacco to British processors for pounds, plus (you can bet) the \$11.74 import tax. The processor in turn sells to the distributor who then sells to the public. The U. S. News for May 7, 1948, in reporting on this states: 'In starting this train of events, the U. S. taxpayer, contributing tobacco, does many things. He takes surplus tobacco off the hands of U. S. tobacco growers so that the price at home can be held up. He gives the British Government tobacco that it can use to draw a very large amount of money out of the pockets of the British people. He enables the tobacco processor and

distributor in Britain to realize profits of their own. And he gives the Briton a smoke.' Europeans who call Uncle Sam, Uncle Shylock, really ought to be ashamed of themselves. His proper name is Uncle Santa Claus, that is, for all the rest of the world except the good old U. S. A.

Give a Dog a Bad Name

'When a government possessing a veto in the UN states its position clearly, on any given question, is there any sense in reviving the same question repeatedly and insisting on a formal veto, time after time. The answer is self-evident: the chief reason for doing this is to put the government on the spot by forcing it to repeatedly use its veto. In other words, the U. S. intentionally forced Soviet Russia to use her veto many times, so that later the democracies could accuse Soviet Russia of misusing the veto. The record on this point is clear.'—Irving Pflaum, foreign editor of the Chicago Sun Times in his column in that paper April 1, 1948.

Primer Of Technocracy

By Henry Elsner, Jr., 8342-1

Designed Operation or Social Chaos

What Kind of 'One World'?

'One World' is a phrase which has become familiar to all of us in the last few years. Recent events have tended to stifle the crusade for 'one world' in a planetary sense, but how many of us have ever stopped to consider if we are living in 'one world' right here on this Continent! After a little thought on the subject, we realize that every one of us, in everything we do, every day of our lives, is living not in one world but in two. Today, each of these worlds is vastly different from the other in its method of operation, yet each is necessary to our continued existence. We are speaking of the world of technology, the machines upon which each of us is so dependent for his 'bread and butter,' and of the world of social control, in which each one of us lives as a part of the pattern called 'civilization.'

If we are to act as intelligent citizens and attempt to formulate something in the way of a solution to America's current problems, the first step must be to become thoroughly acquainted with the situation in which we find ourselves. In examining and contrasting our 'two worlds' of existence, let's begin with the world of technology, which includes everything from blast furnaces and giant airliners to that ball-point pen which writes under water.

One of the most noticeable aspects of this technology is its late arrival in the world of human events, and its spectacular growth since that arrival. The United States generally is regarded as a very young nation, but shortly after its birth, our modern in-

dustrial growth was so undreamed of that prominent leaders ventured the opinion that the Louisiana Territory would never be settled. Yet, in the same year that the Declaration of Independence had been signed, James Watt presented the world with the first practical steam engine an event which began the march of modern technology. The story of the Industrial Revolution as it progressed through its various stages is familiar to all of us. The pace of this revolution has constantly been increasing until today we scarcely have time to appraise the significance of one new productive technique before another even more spectacular is forced to our attention. The trend of this technological growth has always been toward the production of a greater amount of physical wealth with a lesser amount of human labor.

We are so dependent on this world of technology and have become so accustomed to the smooth functioning of our machines that we notice them only when something goes wrong, when the car won't start, when the power is shut off or the water main breaks, only then are most of us conscious of the millions of non-human slaves who serve us day and night.

Anarchy Begets Anarchy

What are the elements of design and operation which enable this technological mechanism to serve us so well that we don't even think about its existence? First of all, in the designing of any machine, certain specific factors must be taken into consideration. The designer must know what the machine is supposed to do, and the

limitations imposed by available materials, space and time; then he can design the machine to do the specified job within these physical limitations. Now that the machine has been designed and built, it is axiomatic that it must be operated in accordance with its design. This means that if, for example, a machine has been designed to stamp parts out of brass plate at the rate of one every second, we cannot feed it sheet steel and expect it to continue operating. If it would work at all, it would be at the cost of a disastrous rise in wear and loss of efficiency. We see, then, that the characteristics of our technological 'world' are that it has been designed in consideration of the job to be done and the physical limitations at hand, and must be operated in accordance with its design.

Shifting our field of inspection from a single machine to our collective technology, we see that it has been designed to provide an abundance, whether of consumable goods, or of services, such as transportation and communication. The manner in which this technology operates, however, is dependent on the other 'world' we have mentioned, the world of social control.

It is this world which determines how we act and what we do, both through direct authoritarian control and through control of our technology. In this world we include our economic system, which regulates production and effects distribution, and the political setup which controls, to a greater or lesser degree, the economic system.

Social control has never been deliberately designed, but has arisen from the conditions in which primitive man found himself. Patterns of action derived directly from man's early utilization of physical resources to provide a living for himself and keep out his less fortunate fellows gradually

became crystallized through use into customs, mores, and finally institutions. This process of stabilization has been going on for many hundreds of years until we find today a system of political and economic controls firmly supported by generations of traditional acceptance.

What Is, Is 'Right'

Now, let's look for a moment at the manner in which this world of social control operates. The most outstanding fact here in evidence is that everything either depends on haphazard circumstances, as is largely the case with our economic system, or on opinions based on precedent, as is the case of our political system. Here is where the contrast with the other 'world,' that of technology, comes in. We have noted that in order for a machine to function properly it must be carefully designed in view of the job to be done and the physical materials and limitations. But our social system presents an entirely different perspective.

Certain documents, such as our Constitution, and all the various laws passed by our sundry legislatures, which at first thought might appear to be the 'design' of our social control, assumes a different nature when examined critically. First, they do not originate a design, but merely serve as legal props for, or amendments to, the 'unwritten law' of social and economic custom handed down from Western European civilization. Secondly, there is no one purpose behind these documents, and they do not take into consideration the physical limitations which affect the social system. We see, then, that if we must dignify our pattern of society by saying it has a design, this 'design' is merely the perpetuation of the status quo. 'What is, is right.'

This is how the great conflict which endangers the cohesion of our Amer-

ican civilization has arisen. The world of social control has stagnated in a static pattern inherited from the past, while the world of technology continues to advance, all the while constantly increasing its acceleration. These two 'worlds' have clashed with increasing fury since the early 1900's, creating an ever greater number of apparently insoluble social and economic problems. We have noted that one of the prerequisites of the technological world is that it must be operated according to its design. Is it any wonder, then, that instability results when an industrial plant, designed to produce an abundance with the fewest possible man-hours, is forced to operate under an economic control which assumes scarcity to be an unalterable fact, and which stipulates that individual consumption of goods can be increased only by that individual putting in more man-hours of labor? The situation in North America today has been ably summed up by sociologist Harry Elmer Barnes in his book *Social Institutions*:

Modern civilization is like a man with one foot strapped to an ox-cart and the other to an airplane—with one set of loyalties to a windmill and another to a dynamo. This sort of situation cannot continue indefinitely. Unless we can bring our thinking and institutions up-to-date, the ultimate collapse of civilization is inevitable. At present, far from closing the gap, the tendency is for the divergence to become ever greater.

The Blueprint Is Ready

What must be done, and when, and how, to merge the two conflicting worlds of technology and social control into one harmonious whole? First of all, we must remember that we are totally dependent on the continued smooth functioning of our machines, and that, therefore, any proposed solution must provide for such operation. In

consideration of this fact, why not apply the same precise methods we have used in machine design to social design? Let us see what would result.

Since our productive plant has been designed to produce the most possible with the least possible human effort, why not make the purpose of our social system the guarantee of the greatest possible amount of this abundance to each citizen? Why not further guarantee a high standard of education maximum health protection, and increased physical liberty to each citizen? A survey of the available resources and developed techniques will show that these goals are entirely possible today, if we allow our technology to operate according to its design.

The method of attaining this desired end result must, of necessity, involve the same careful planning and research demanded of machine design. What is the most efficient, flexible and rapid method of distributing the products of our factories to our citizens? What type of administration will insure a continued high level of production and distribution and at the same time be in accord with the physiological and psychological characteristics of the personnel involved? What type of social control will insure stability without authoritarianism? How can working hours be arranged so that there will not be periods of overloading and under-utilization of recreational facilities. How can the individual best be educated to usefully participate in necessary functions and also to life in a 'culture of abundance' to the fullest extent?

These are some of the many questions which must be answered in designing a social mechanism which is truly 'up-to-date' with our technological mechanism. There is on this Continent today an organization which has spent many years in conducting a survey of the resources and personnel of North America, and has drawn

up the blueprints for one 'world' of social and technical unity. This Organization is *Technocracy Inc.*

Technocracy invites you to join its organization and inspect its analysis and design from the inside. We cannot long live in two 'worlds' rapidly diverging; and must soon either have

'one world' of chaos, in which the breakdown of our technology will throw us back into the Dark Ages, or 'one world' of physical abundance and social freedom which will be the envy of the world. The responsibility is yours alone; what are *you* going to do about it?

Facts in a Nutshell

'The Frozen Food Locker Institute reported there are now 9,529 plants with 4,859,790 lockers with a theoretical capacity of 900,000,000 pounds of meat in the U. S. against 1,238 plants and 309,500 lockers in 1938. The Institute said 250,000 homes had deep freeze units.'—'Chicago Times,' December 18 1947. (Ed. Note: They all depend on electric power, too.)

'The most startling fact in war time population studies has been the huge increase in western population. The three Pacific coast states gained 3,287,000 people, or an increase of one-third. All the other 45 states increased only 3,712,000 or 3 per cent.'—'Chicago Tribune,' November 23, 1947.

'The Distilled Spirits Institute reports that the U. S. drank 22.6 percent less whiskey, brandy, gin and the like in 1947 than in 1946. Beer drinking went up, but wine and cordial bibbing fell sharply.'—From CHICAGO DAILY NEWS, March 9, 1948.

'As a result of the wartime development of an electric smelting process, vast deposits of low-grade nickel ore in the Pacific Northwest offer a potential domestic source for this important metal which can be recovered as a high-grade nickel-iron alloy. There are two large known deposits, one in Oregon and one in Washington. It is estimated they contain in excess of 12,000,000 tons of nickel ore.'—From a Bureau of Mines Release, dated October 26, 1947.

Dr. Pauline Beery Mack and Dr. Harold K. Schilling of Pennsylvania State College recently demonstrated that clothes can be washed with sound waves. They placed a soiled cloth in a bucket of soapy water and exposed it to ultrasonic waves of 18,000 frequency. The cloth came out clean. —'Chicago Daily News,' September 9, 1947.

Since 1900 the U. S. steel industry has turned out, up to October 31, 1947, over 2,000,000,000 tons of steel ingots and steel for castings. 'In a year like 1947, 2.7 tons of ingots are made every second.'—'Steel Facts,' December, 1947.

World production of coal for 1947 was about 1,573,000,000 tons. U. S. share of this was about 645,000,000 tons. Converted from a basis of metric tons (2204.6 lbs.) to net tons (2000 lbs.) Britain produced 224,000,000 tons; Russia 177,000,000 tons; Western Germany 153,000,000 tons; Poland 60,000,000 tons. Other nation's output was smaller. U. S. share of world production was 43 percent in 1947.—From a release of the Bituminous Coal Institute, December 31, 1947.

'It has been estimated that every time there is a shower of rain in an industrial area, unprotected iron and steel rust away at the rate of 3 ounces per square foot per year.'—From the Bulletin 'Tin and Its Uses,' July, 1947.

About two out of every five men in the United States between the ages of 20 to 65 are war veterans.

Technocracy In Your Trade

Hotel Workers

By Organization Division, 8741-1

Lodging For The Night

Hotel work is one of the oldest occupations. Records of inn-keeping go back about 2500 years. Inns were scattered along the main caravan routes in the ancient world; and they dotted the highways of the Roman Empire. During the dark centuries of the Middle Ages under clerical fascism, travel of any sort became highly dangerous. Consequently, inn-keeping practically ceased.

Beginning with the Commercial Revolution in the late Middle Ages, travel was resumed in Europe and the inn-keeping business revived. During the 18th Century in France, the first 'hotels' appeared. Today the hotel industry is well established. The typically modern hotel in this country is more than a lodging house. It is a complex organization offering a variety of services to the traveling public.

Bulletin No. 905 of the Bureau of Labor Statistics, from which most of the data in this article is taken unless otherwise specified, catalogues about 28,000 hotels of all kinds in 1939, with 338,000 employees.

A check-up in the 1946 *Statistical Abstract* reveals that hotel workers rank among the first twenty major occupational groups in the country.

Modern Industry

There are three main types of hotels, commercial, or transient, residential, and resort. About three-fourths of the hotels are of the commercial type. That is, they cater to business travelers and transient tourists. Resort hotels are open only a part of the year, and compose about one-sixth of all the hotels. Residential

hotels make up less than one-tenth of the total. Commercial and residential hotels combined, however, account for about 95 percent of the average annual employment in the whole industry.

The Census of Business, 1939, breaks down the hotels as follows: About 12,000 had less than 25 rooms; 8,000 had from 25 to 49 rooms; 4,600 had from 50 to 99 rooms; 2,500 had from 100 to 299 rooms; and 548 had more than 300 rooms. Thus we see that about 90 percent of the hotels in 1939 had less than 100 rooms.

However, the 10 percent with more than 100 rooms accounted for 240,000 of the 338,000 hotel jobs in 1939, or about 71 percent. The 12,000 hotels with less than 25 rooms employed only 20,000 workers, although they comprised over 40 percent of all the hotels. The 548 hotels with more than 300 rooms employed almost 40 percent of the workers, although they comprised less than 2 percent of the total hotels.

Here we have the typical pattern of modern industry, a few large organizations employing the bulk of workers, and a far larger number of smaller businesses employing only a few. Where we find that pattern, we usually find technology at work, displacing skill and man-hours of labor.

This is not so evident in hotel work, except in one major department, due to the personal service nature of the work as a whole. Bulletin 905 states that the industry employs about one worker to about every four guests, but that large hotels employ more workers per guest than small hotels. However, technology is making inroads there, too.

Types of Hotel Work

There are eight general departments in hotel work: Executive, front office, accounting, housekeeping, service, restaurant, maintenance, and the auxiliary departments.

The executive department consists of managers, personnel, publicity and advertising employees.

The accounting department consists of auditors, bookkeepers, cashiers, and other clerical workers.

The housekeeping department consists of the housekeeper, chambermaids, housemen, decorators, upholsterers, etc.

The service department is made up of bellmen, baggage porters, elevator operators, and doormen.

The restaurant department includes cooks, kitchen helpers, stewards, store room men, bartenders, etc.

The maintenance department is made up of engineers, electricians, plumbers, carpenters, and painters.

The auxiliary department employs laundry workers, valets, barbers, and tailors.

The duties of each one are about what the titles indicate. The Bulletin does, however, cast a little special light on the duties of front office clerks who work behind the main hotel desk. They rent rooms to incoming guests. The Bulletin states that: *'The clerks must try to make room assignments in such a way as to obtain the greatest possible room revenue.'* (Italics ours) Remember that the next time you get a hotel room. The clerks are not there to give you what you want, but to give you what is good for the business.

In the order listed above, the percent distribution of employees in the eight general departments is as follows:

Executive, 2 percent; front office and accounting, 11 percent; housekeeping, 26.5 percent; service, 12.9 percent, restaurant, 36.7 percent; main-

tenance, 4.7 percent; auxiliary, 6.2 percent.

From this it is seen that the housekeeping and restaurant departments include about 64 percent of all the hotel workers.

The brightest prospect for the introduction of new technology is in the restaurant department which has over one-third of all employees. We have no data on the advance of technology in the seven other departments. It might be said that, in a general way, as machines, methods and processes become more efficient, skill and man-hours both will be displaced there as in industry at large. This is especially true in the accounting department. Office work in general is becoming more mechanized, and there is no reason to suppose that hotel office work is exempt from the general trend.

It is, however, in the restaurant department that technology is chalking up big gains now at the expense of skill and man-hours of labor.

Enter Technology

The *Wall Street Journal*, April 16, 1948, contained a story covering the recent annual Convention of the National Restaurant Association at Cleveland. The story was headed: 'Restaurants Overhaul Kitchens and Menus In Drive To Cut Costs.'

That's exactly what they are compelled to do, cut costs. Naturally, this includes man-hours of labor. Anytime you can eliminate or downgrade a skill, or reduce man-hours, the cost per unit of production goes down.

Hotel restaurants are in the same boat as general restaurants. The owners realize that the only answer is more new technology. Consequently, the drive is on from coast to coast to modernize.

One top N.R.A. official was quoted as saying: 'Restaurants are installing machinery right and left to keep their heads above water. Most any large

operator will spend \$10,000 for new equipment to eliminate one employee.'

In addition to revamping the layout of kitchens, the *Journal* says that 'One big aim is to cut the number of times food must be picked up and carried around before it's plunked in front of the customer.'

Belt conveyors are being installed in kitchens. A new dishwashing machine displaces four workers. In fact, hand dishwashers are a thing of the past in an up-to-date restaurant. They are now classified as machine operators. Automatic dishwashing machines are being introduced also. A new model washes and rinses 25 pieces of chinaware in 55 seconds.

A silverware washer and dryer processes 300 pieces in 3 minutes. A new pot washer cleans and sterilizes a 30 gallon pot in a few minutes. A new potato peeler removes the skins from 33 pounds of spuds in 18 seconds. It wastes only 5 to 10 percent compared with a far higher loss by hand peeling.

One chain of four restaurants in Ohio has just completed a two-year modernization program in which \$750,000 was spent for new technology.

If the previously quoted ratio of a \$10,000 expenditure to eliminate one employee is anywhere near correct, this chain of four eateries has eliminated 75 jobs by its investment of \$750,000.

The Deck Is Stacked

In any case technology is on the march in the hotel industry. This fact puts the hotel worker in the same boat as all other North Americans. This land we live in has given rise to the world's first and most advanced technological culture. Technology is permeating our entire social structure. Even those more resistant areas of our system, such as the personal service fields, characteristic of the hotel industry, are feeling the impact of technology.

The hotel workers, as a group, will find it impossible to cope with the advance of technology under the Price System. The data on average weekly wages paid in the industry bears this out. In January, 1948, according to *Labor's Monthly Survey* of the A.F.L., April, 1948 issue, the average weekly wage in hotels was \$30.55. At the same time, the City Worker's Family Budget, estimated by the Bureau of Labor Statistics to be necessary for a minimum standard of living (on the basis of January, 1948, prices) according to the A. F. of L. Survey, stood at \$65 a week.

To be sure, every hotel worker is not that bad off. A minority will be able to 'get by' fairly well. The great majority, however, will find the going tougher and tougher. That is the way a Price System operates. After technology enters the picture, it must be used for the sole benefit of 'free enterprise.' In addition to coping with this new advance in Technology, the hotel worker always has had to cope with the fact that the hotel industry is notorious for its ups and downs in volume of employment. Bulletin 905 states: 'Declines in business activity have led to sharp declines in hotel employment in the past, however, and would probably do so in the future.'

In view of the present introduction of new technology, it is not difficult to visualize how violent the next downward oscillation will be in the hotel industry, for the hotel worker.

Despite all the soft soap propaganda peddled by 'free enterprise' there is no remedy for the growing insecurity of the hotel worker under the Price System.

Organize A New America

However, there is a way out, but only one way out. The Price System is doomed by the advance of science and technology. There is no use in looking for a solution amidst its crumbling structure. What is needed to solve the

hotel worker's problem is a new social system.

We do not mean a new hotel system. We mean an entirely new civilization. This may sound big and awesome, sort of like chopping off a leg to cure a corn. It isn't that way at all.

This Price System civilization is passing out in North America. The only possible type of social system (civilization) that can replace it is one organized according to scientific principles and operated by technological methods.

All the preliminary work on such a social system has already been done. It is ready for installation now on this Continent. Technocracy Inc. has been engaged in disseminating the specifications for the New America for about 14 years. Technocracy has local

Sections in nearly all the major centers of North America. It is a non-political, non-sectarian, non-profit Organization.

To every hotel worker, man or woman, who is puzzled about his own life and his future years, we can recommend nothing better than to join Technocracy and learn more about this. Technocracy does not conflict with unionism or religion. It is a factual study of physical trends in North America together with the correct answers to social problems. It shows the way out of the growing mess that 'free enterprise' has made of our country and our people.

Technocracy has the only correct answer to the hotel worker's problem. Why not join up and make them prove it?

Short, Short Story

Price System Recognition

On Sunday, April 4, 1948, a 112 year old war veteran died at the Elgin, Illinois State Hospital.

He was known in the records only as 'Uncle Bob' Wilson.

'Uncle Bob' was a veteran of the Civil War. The only trouble with that was he served in the wrong army.

John T. Nelson, veteran's service officer at the hospital, checked his history with the War Department at Washington. He was informed that records of the Confederate States Army showed that 'Uncle Bob' had served in Company H. of the 16th Virginia Infantry during 1862 and 1863.

Because 'Uncle Bob' served in the Confederate Army the Federal Government could not bury him with military honors in the Soldier's Reserve of the Bluff City Cemetery at Elgin.

The City of Elgin would not stand for it either.

Because 'Uncle Bob' was a Confederate Veteran he was frequently visited, at the hospital, by ladies of the Chicago Chapter of the United Daughters of the Confederacy.

When 'Uncle Bob' died Mr. Nelson got in touch with the Chicago Chapter to arrange for his burial.

He was informed that the Daughters had no further interest in 'Uncle Bob.' A former president of the Chapter said: "He was a fine old man, but we don't feel any obligation to bury him."

You see, 'Uncle Bob's' skin was the wrong color. He was a Negro.

So, they buried 'Uncle Bob' (American citizen for at least 85 years) in Potter's Field, behind the hospital.

The United Daughters sent a bouquet of pretty flowers to his funeral. (Data and quote from the Chicago Sun and Times, April 5, 1948).

In The Question Box

By Speakers' Division, 8741-1

Please explain the thermodynamic viewpoint of history.

All life depends on energy. All work done is accomplished by the use of energy. All organic and inorganic mechanisms (machines, men, etc.) involved in the operation of any social system are energy consuming devices.

All goods and services that go to make up the standard of living of any people come about through the application of energy to raw materials so as to convert them into use forms. The physical standard of living of any people can thus be measured by the amount of energy they use, plus the rate and efficiency of its use, per time unit. This is the means whereby men live.

From a thermodynamic point of view, every social system prior to the invention of the steam engine was socially static. The amount and the efficiency and the rate of use of energy used underwent little change for many ages. It was a long period of handicraft-agrarian culture wherein

the ability to produce goods and services was geared down to the power output of the human body plus that of windmills, work animals and water wheels.

To be sure, there were many political, moral and ideological changes. Many wars were waged. Kingdoms changed hands. Dynasties waxed and waned. However, these changes were superficial in that they did not alter the physical means whereby men lived.

With the advent of science and technology, social life began a fundamental change. The amount and the efficiency and the rate of use of energy used per time unit increased. Thus, more goods and services became available. Consequently, standards of living rose. This social change is still going on and accelerating with time.

Upon this basis, we can measure the social history of any people of the past or present. The fundamental yardsticks are the amount and the efficiency and the rate of use of energy used by the social system as a whole, per time unit.

American vs. European

Minnesota, North and South Dakota grow about 72 percent of the nation's flax. It is harvested for seed and until recently the straw was usually burned. It amounts to a tidy 2,000,000 tons a year. Lately some of it has been used to make cigarette paper. Now, however, the University of Minnesota has worked out a new, cheap method to convert flax straw into linen yarn in four to five hours. The St. Paul Dispatch for February 17, 1948, in reporting on this states: 'Most important

new feature of the method is a chemical process which removes gums and other waste material from flax fiber. This takes only half to three-quarters of an hour. It substitutes for the 'natural method' used by Irish and other European linen makers. They soak the fiber in bogs or streams for from several days to several weeks.' A machine has also been developed to 'beat out the woody core of flax straw. In Europe, this beating is done by hand.' Score another mark for American technology.

Postwar World Production Of Minerals

1945-1947

By Research Staff, Great Lakes Technocrat

The following Table is a compilation of the latest available figures on postwar production of minerals in the North American Technate Area, and the rest of the World. It will bring most of the items listed in Table II, page 272, "Technocracy Study Course Book" up to date. Cut out this important information and paste it in your Book. Extra copies of this issue available.

(Metric Tons, 000's Omitted)

Reference Number	Mineral		North American Technate	Rest Of The World	World Total	Technate Percent Of World Total
1	Aluminum	1946	547	202	750	73
2	Arsenic	1946	19	14	33	59
3	Asbestos	1945	435	232	666	65
4	Antimony	1946	9	16	25	37
5	Barite	1945	757	567	1,324	57
6	Bauxite	1946	2,809	1,191	4,000	70
7	Bismuth	1943	836	564	1,400	60
8	Cement	1946	31,890	44,110	76,000	42
9	Chromite	1946	181	919	1,100	17
10	Coal	1947	627,417	677,396	1,304,813	48
11	Copper	1946	798	1,062	1,860	43
12	Feldspar	1946	550	101	650	85
13	Fluorspar	1944	496	590	1,086	49
14	Gypsum	1946	6,796	3,523	10,319	66
15	Iron Ore	1947	96,696	68,624	165,320	59
16	Lead	1946	595	571	1,166	51
17	Magnesium	1946	5	7	11	41
18	Manganese	1945	416	3,445	3,861	11
19	Mercury	1946	37	102	139	29
20	Molybdenum	1947	13	(.5__)	13	97
21	Nickel	1946	98	29	127	77
22	Nitrogen	1947-48	1,367	1,893	3,260	42
23	Petroleum	1947	2,398,745	587,512	2,986,257	80
24	Pig Iron	1947	55,632	49,145	104,777	53
25	Phosphate Rock	1946	6,980	4,905	11,885	59
26	Platinum	1946	197	379	576	34
27	Potash	1946	845	1,395	2,240	38
28	Pyrites	1945	941	4,559	5,500	17
29	Rayon	1946	400	361	761	52
30	Salt	1946	14,523	21,022	35,545	40
31	Steel	1947	79,512	56,376	135,888	59
32	Sulphur	1946	4,167	100	4,267	98
33	Talc	1945	386	304	690	56
34	Tin	1946	(.5+)	88	89	(.78)
35	Titanium	1944	284	177	461	62
36	Tungsten	1946	5	14	19	25
37	Vanadium	1946	(.5+)	(.5__)	1	57
38	Zinc	1947	1,162	691	1,852	63

There is no complete, comparable postwar data on World production of Asphalt, Cadmium, Mica, Natural Gas, or Superphosphates. As soon as these data become available "Great Lakes Technocrat" will publish them for addition to this list.

Table II, References

QUANTITIES: 000 omitted from all totals. Nearest round figure given. Percentage calculations on the basis of the complete figure. Quantities more than 500 but less than 1,000 tons are indicated by (.5+). Quantities less than 500 tons are indicated by (.5—).

UNITS: All figures unless otherwise indicated are in metric tons. A metric ton is 2,204.6 avoirdupois pounds.

SOURCES AND DATES: The year for which production is given is listed after each item in Table II. Sources are listed below after numbers corresponding to the numbers preceding each item in Table II. Three abbreviations are used: A—B—C. A means U. S. Bureau of Mines (USBM), including USSR. B means USBM, not including USSR. C means "Statistical Bulletin," United Nations, February, 1948.

- 1: A.
- 2: B.
- 3: A.
- 4: USBM for USA and Honduras; respective Government data for Canada and Mexico; USBM for rest of World; Not including USSR.
- 5: B
- 6: A.
- 7: Kilograms; estimate by GLT on USBM data; includes USSR.
- 8: A.
- 9: A.
- 10: Technate Area USBM; rest of World USBM and C; USSR data from report of U. S. Department of Commerce, as quoted in the "Chicago Tribune," March 24, 1948.
- 11: USBM and Mexican Bureau of Mines; includes USSR.
- 12: B.
- 13: B.
- 14: A.
- 15: C; data for USSR from Dept. of Com. loc. cit.
- 16: Refined basis; A.
- 17: A.
- 18: A.
- 19: A.
- 20: U.S. and World total from annual report of Climax Molybdenum Corporation, as quoted in "The Mining Record," March 18, 1948; data for Canada and Mexico from respective Government sources; includes USSR.
- 21: A.
- 22: Metric tons, Synthetic; data from "Chemical Engineering," February, 1948; not including USSR.
- 23: Barrels; "World Oil Magazine Yearbook," 1948; includes USSR.
- 24: C; data for USSR from Dept. of Com. loc. cit.
- 25: P.
- 26: Troy ounces; A.
- 27: B.
- 28: Gross weight in metric tons; A.
- 29: Combined total of filament and fiber; by Textile Economics Bureau, as quoted in a booklet published in December, 1947, by Oscar Kohorn and Co. Ltd.; includes USSR.
- 30: B.
- 31: C; data for USSR from Dept. of Com., loc. cit.
- 32: Native; A.
- 33: Including pyrophyllite and soapstone; B.
- 34: B.
- 35: Ilmenite content; B.
- 36: B.
- 37: B.
- 38: Smelter and refined basis; Technate Area data for all of 1947 from C; foreign data (except USSR and Yugoslavia) based on projection by GLT from reports of first 11 months of 1948 by C; data for USSR and Yugoslavia from estimate in "Engineering and Mining Journal," January, 1947; the Journal gives USSR a 1947 production of 326,500 metric tons, although the "League of Nations Yearbook," 1941-1942 lists only 90,000 tons in 1939.

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NORTH AMERICA'S ONLY SOCIAL DYNAMIC

WHAT?

★ Technocracy is the only North American social movement with a North American program which has become widespread on this continent. It has no affiliation with any other organization, group or association either in North America or elsewhere.

★ The basic unit of Technocracy is the chartered Section consisting of a minimum of 25 members and running up to several hundred.

★ It is not a commercial organization or a political party; it has no financial subsidy or endowment and has no debts. Technocracy is supported by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commission or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$6.00 which are paid by the member to his local Section.

★ Members wear the chromium and vermilion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHERE?

★ There are units and members of Technocracy in almost every State in the U. S. and in all Provinces in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces.

★ Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHEN?

★ Technocracy originated in the winter of 1918-1919 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934, Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundations of the present nation-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous discovery that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHO?

★ Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this continent. Membership is open only to North American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective political office or actice office in any political party.)

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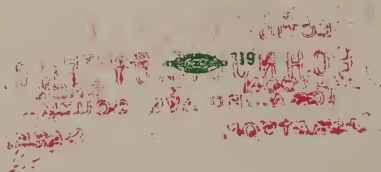
Memo For 1948

'The first duty of any political party upon taking office is to so operate the techniques of the political office as to assure a modicum of stability and satisfaction in the day to day operations in the area under its jurisdiction, primarily for the purpose of laying the proper pipeline and building up its political machinery for re-election for another term. Any interest in appearing to solve or to seek a solution to any problem must be subsidiary to its prime purpose of perpetuating itself in political office . . .

'During the last fifteen years Technocracy as a body of thought and as an Organization has come through the greatest depression and the greatest war in history, its vision unsullied and its strategy uncompromised. It stands alone far, far from the political party seeking election to political office. As technology moves up on this Continent in the postwar years, only Technocrats and Technocracy will have the satisfaction of seeing the historic parallelism of events confirm our operating design for this Continent as the unique solution for the social problems of our people and our time.'

(Howard Scott in 'America Outward Bound')

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WHOLE NO. 93

Illustrating the Futility of Price System Methods of Operation.
Interpreting the Trend of Events from the Social Aspects of Science.

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Determining The Most Probable

By M. King Hubbert (CHQ)

Reprinted from *Technocracy*, Series A, No. 12, June, 1938

In Three Parts—Part I

As far back as we have record, and doubtless farther, one of the greatest concerns of the human race has been the problem of what is going to happen in the future. So great has been this concern that in most places and times there has existed a separate priestly class whose special function was to make predictions and to give advice, for a consideration, to the officers of state and the leaders of business concerning the probable outcome of any venture that might be embarked upon.

In the days of the Old Testament it was the prophets who assumed this priestly role. In ancient Greece the priests of the famous oracle at Delphi were oftentimes the principal advisors to the rulers of the state. In the Middle Ages the astrologers came into vogue, and no medieval court was properly appointed without its court astrologer, who also in many instances was the professor of astrology in the local university.

Today, notwithstanding the fact that there are still a dozen or so practicing astrologers listed in the New York classified telephone directory, astrology has fallen pretty well into disrepute. Instead of professors of astrology in our modern state-owned and privately endowed universities, we have professors and departments of economics; and in the place of the court astrologer, or the priests at the temple of Delphi, we now have the Brookings Institution.

The devices of official prognosticators also have varied considerably with time. God descended and delivered his message to the biblical

prophets. The priests at Delphi uttered oracular noises while being overcome by the noxious fumes emanating from the hot springs underneath the temple. The tools of the astrologer consisted of such matters as the 'positions of the planets,' the 'horoscope,' and 'the signs of the zodiac.' The economist has the 'law of supply and demand,' the 'niggardliness of nature' and the 'insatiability of human desire.' He believes in 'sound money,' the restoration of 'confidence,' and that one can depend upon the 'natural forces of recovery' to restore things to 'normal' conditions. And above all it is by means of the 'business cycle' that he is enabled to predict with supreme confidence what is going to happen.

It was on the basis of the business cycle that economists were able to tell us in 1930 and 1931 that prosperity was 'just around the corner.' In January 1936, when industrial production was on its way up as a result of government spending, the economists, by a review of the business cycle, were able to show that everything was turning out exactly according to Hoyle, for recovery from the depression of 1873 had come in 1879, from that of 1893 in 1899, and from that of 1907 in 1912—within five or six years in each instance. Finally, in early 1938, after industry had undergone the most spectacular shutdown in American history due to the curtailment of government spending, it was shown that the business cycle runs on a twenty year period (for example: 1873, 1893, 1907, 1921, and 1929), but that there always has been a mid-term 'recession.'

Probably no single subject in all economic literature has been written on more lavishly than the 'business cycle.' Libraries exist upon this subject alone, ranging in technicality from the most elementary discussions, to treatises bristling with advanced mathematics; yet for the last ten years no instance has been observed of an accurate prediction, by means of this method, of any major event in the future, although its adaptability in explaining events that are already past appears unlimited.

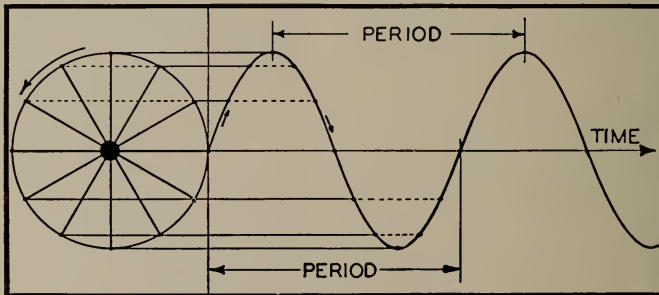
The whole fallacy of all such discussions seems to lie in a failure to comprehend, or perhaps to define the concept of 'cycle' and that of 'business.'

In the first place one needs to consider just what is the meaning of the word 'cycle.' The word originally implied the rotation of a wheel. When a wheel rotates it goes through a series of successive positions and finally re-

turns to exactly its original position. If rotation continues with uniform angular velocity, each of these successive positions of the wheel is repeated at equal intervals of time.

Now if we project the position of a point on the rim of the wheel, viewed in the plane of the wheel, upon a piece of paper moving at uniform velocity parallel to the axis of the wheel, we obtain the wave shaped graph of Figure 1, known as a sine curve. This curve may be taken as the type example of all cyclical phenomena. The horizontal axis represents time and the up and down motion represents some quantity which varies cyclically with time. From this, it is easy to generalize and to define as a cyclical phenomenon any phenomenon which goes through any sequence of events, returns to its initial state, and then repeats indefinitely, the same sequence of events at equal intervals of time.

FIGURE 1

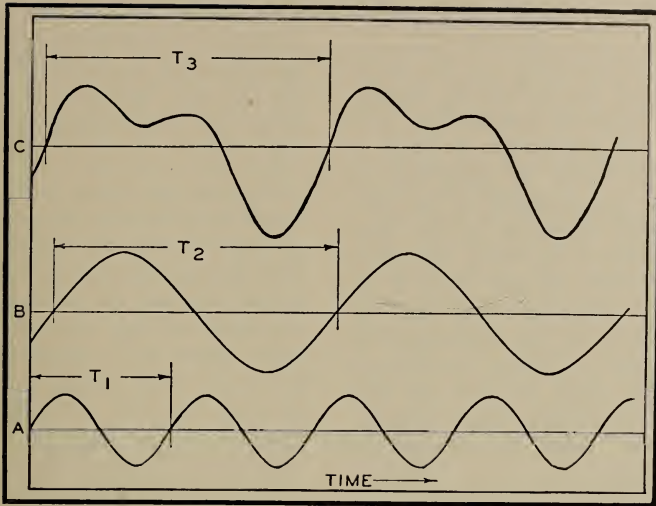


When the variation with time of any quantity that changes cyclically is plotted as a graph, it can be shown that no matter what the shape of this graph may be, it can always be obtained by the addition of a suitable number of simple sine curves like that of Figure 1 but of different

periods (time of a complete cycle) and of different amplitudes (radius of generating circle).

In Figure 2 curve *C* represents a cycle of period T_3 , which is obtained by adding the sine curves *A* and *B* of periods T_1 and T_2 respectively.

FIGURE 2



The most fundamental thing in all cyclical phenomena is the element of repetition at equal intervals of time. Cyclical phenomena repeat themselves identically at equal time intervals. Approximately cyclical phenomena repeat themselves approximately. For example, the temperature in the city of New York rises and falls in an approximately cyclical manner during the course of a year. The pendulum of a clock swings back and forth in a cyclical manner. Astronomical bodies, the sun, the moon, and the planets, move about the heavens in a cyclical manner.

It is this element of repetition in a cyclical phenomenon which makes it easily possible to predict the future. Once a phenomenon is observed to vary cyclically, and the sequence of events for one cycle, and the period, are determined, it is possible to predict what its state will be at any given time in the future. Thus astronomers predict the positions of the sun, the moon, and the planets into the indefinite future. Eclipses are predicted accurately years before they occur. In approximately cyclical phe-

nomena approximate predictions may be made. Thus we may predict freezing weather in Chicago next December, and the next, and for an indefinite number of Decembers thereafter.

Coming now to the other essential part of the 'business cycle,' we must investigate what constitutes 'business.' If a business cycle is to exist, then that means that some quantity or series of quantities must vary up and down in a cyclical manner as a function of time. 'Business' is a sort of blanket or undefined term used to cover loosely a multitude of things. It refers perhaps more specifically to trade and commerce, but trade and commerce are a composite of such industrial activities as agriculture, mining, manufacturing, power production, transportation, and communication; and all are intimately linked up with the magnitude of the human population. Hence to investigate the changes of 'business' it becomes necessary to investigate the evolution of a whole industrial complex as a function of time.

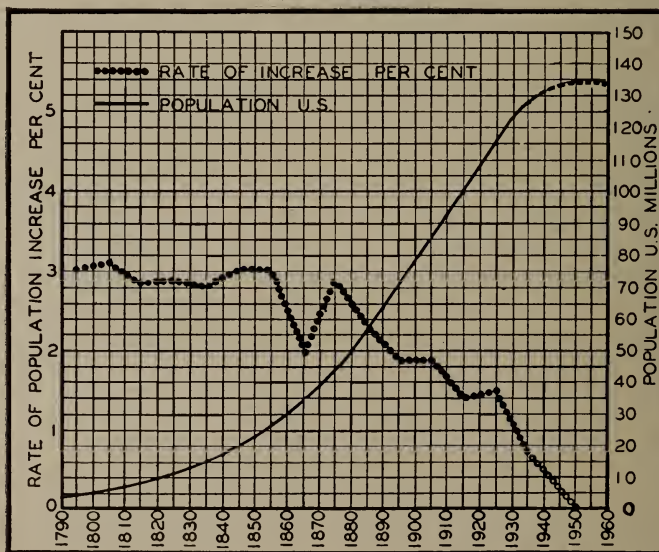
Any human social complex consists of a biological complex of plant and animal species of which the human species is only one. Besides this, the human species indulges in an array of activities of an industrial nature of varying degrees of complexity. The history or the evolution of such a social complex may be regarded as the record of the changes of the several component variables of the system as a function of time. Whether or not the system, or any part of it, varies in a cyclical manner, can be determined only by an investigation of the behavior of these component variables with time, or else by the employment of certain basic considerations which enable us to know the nature of possible variations even if the exact details are not known. Our concern in the present discussion is with the past evolution of the social complex of the North American Continent, though the actual discussion and the data employed will apply

principally to the United States. This is due to the fact that the data for the United States are most readily accessible. Conclusions and methods of reasoning applicable to the United States are, however, applicable and valid for the remainder of the area also.

One of the most important of the variable quantities in a social complex is population. As remarked before, the human species is only one of a large number of biologic species co-existing in the area, other species, both plant and animal, forming the essential food supply of the human species.

Figure 3 is a graph of the growth of the population of the United States according to the United States census since the year 1790. It is to be noted that in the entire history of the United States the population has never once decreased; it has only increased with time.

FIGURE 3



From a biological point of view this is not surprising, for it is a well known fact that all biologic species

tend to increase, when environmental circumstances will permit it, at a geometrical rate with time. That is

to say, if the population doubles in a given number of years, it will again double within the next same number of years, and so on. If we study Figure 3 we will observe that from 1790 to 1860, the population of the United States doubled every 23 years. This is the same type of increase that characterizes a sum of money at compound interest, where the interest is added to the principal continuously as fast as it accrues. Computation shows that from 1790 to 1860 the instantaneous rate of growth was almost exactly 3 percent per annum, compounded continuously.

Now suppose that this were all we knew about the population of the United States—that from 1790 to 1860 it had expanded geometrically or exponentially, at 3 percent per annum, or in such a manner as to double every 23 years. Could we then say anything about the past or the future of that population? Calculation shows that if this rate of increase continued for another 454 years after 1860 or until the year 2314 A. D. there would be one person to every 4 square feet of area in the United States, which would just barely be standing room,

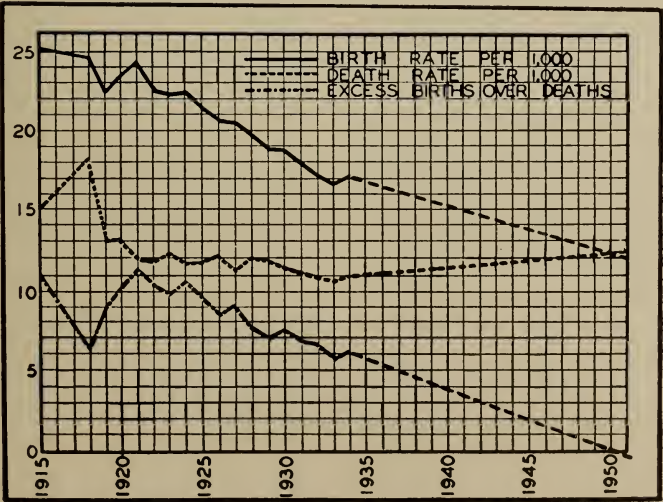
and in another 23 years this number would be doubled.

It is obviously physically impossible to support such a population density on any area, so we are forced to conclude that no population of any kind—plant or animal—can expand geometrically for more than a temporary period of time.

Further study of Figure 3 bears this out. The dotted line curve is the rate of increase of the population in percent per annum for each ten year period. After the Civil War this rate, it will be noted, descends rather sharply toward zero, indicating that although the population is still increasing its rate of growth is decreasing.

Another way of getting at the same thing is by means of the birth-rate and death-rate curves of Figure 4 as derived from the Statistical Abstract of the United States. The solid line curve in this figure represents the number of births per year for each thousand of the population for each year since 1915. The middle curve is the number of deaths per thousand, and the bottom curve is the excess of births over deaths.

FIGURE 4



It will be noted that the birth-rate has been falling since 1915, and that the excess of the birth-rate over the death-rate has been declining since 1921, being only 6 per thousand in 1934. The present expectancy of life is about 60 years, so that if the birth-rate and the death-rate were equal and the population stationary, 1/60th of each thousand would be born and 1/60th would die each year, giving a stationary birth-rate and death-rate of 16.7 per thousand. The birth-rate has already reached this critical figure and shows every indication of going below it. If it does, the death-rate must rise as the present older generation dies off. Almost certainly the birth-rate and death-rate curves will meet or cross not later than 1950. On this assumption we can estimate the

difference between the two from now until then. This enables us to compute the increase of the population for each year between now and 1950. This has been done and the results are plotted in Figure 3 as the dashed extension of the population curve. This indicates a peak population of 134 million persons at about 1950.

It does not seem likely that this figure could be greatly upset by any procedure less drastic than an intensive subsidized program of cannon-fodder production.

Editor's Note: This was written in 1938. World War II intervened and upset the calculation by increasing the rate of population growth, temporarily at least. (Continued in the next issue).

Home Sweet Home Blues

'Almost all home builders are inefficient, small-scale productive units, which would fail completely in any other important industry. The construction workers, too, usually insist on using handicraft methods until forced to do otherwise. The whole industry operates under a limitation of output rather than an expansionist outlook. As long as poor management, inefficient labor and high costs of materials continue, and it must be remembered that each feeds on the others, housing costs will remain high. The only real solution is for all sectors of the housing industry squarely to face the task of modernization and expansion for mass production.'—Ralph E. Flanders (Rep., Vt.) in a report to the Joint Congressional Committee on Housing. (As quoted by the NEW YORK TIMES, January 18, 1948.)

'When this stuff (a cellulose type of plaster substitute) catches fire it gives off gas. The gas is so poisonous that you don't know when you are inhaling it, because you're dead before you even inhale it.'—Byron Dalton of the Plasterers Union,

speaking for the Chicago Building Trades Council before a City Council subcommittee in opposition to a modern building code. (As quoted by the CHICAGO SUN AND TIMES, February 16, 1948.)

In 1921, when the population of Chicago was not yet 3,000,000, there were over 12,000 homes built within the corporate limits of the city, and only about 5,500 outside the city limits. In 1947, with the city's population almost 4,000,000, there were less than 6,000 homes built within the corporate limits, and almost 19,000 outside the city. (From TOMORROW'S CHICAGO, a release of the Metropolitan Housing Council, February 10, 1948.)

The housing situation in Chicago yielded this picture in 1947: Families doubled up, 70,000; families in units in serious disrepair or unfit for use, 100,000; vacancy rate, zero; dwelling units authorized, 5,968.—Tomorrow's Chicago, April 30, 1948.

FABLE—A publicity release from the National Association of Manufacturers.

Song Of The Continent

America Can Be Beautiful

By Sam Pavlovic, R.D. 9344

'Come, I will make the continent indissoluble,
I will make the most splendid race the sun
ever shone upon . . . I will plant companionship
thick as trees along all the rivers of America,
and along the shores of the great lakes, and
all over the prairies.'—Walt Whitman,
American poet (1819-1892).

'Looking Backward'

The ancient Price System in its westerly course finally arrived on the last great unexplored land mass of the world. There it found its greatest expression. The social organization of the North American Continent is a phenomenon in the annals of man. The distinctive feature of the North American Price System lies in its interpretation of its physical environment through the mediums of science and technology.

All through history this Price System, though showing variation in its myths and social patterns, has retained its basic operating characteristics. These are the exchange of the necessities of social sustenance on the antiquarian concepts of natural scarcities and hand toil.

Interpretations of man's social history are varied. Each historian has his own 'angle.' Despite the various 'angles' of perspective, man's story shows certain consistencies in its contours. What we call the 'history of civilization' runs back less than one percent of the time man has been on this earth. It is apparent from the findings of artifacts of early man that homo sapiens, for a multitude of centuries, was in a most primitive relationship to the physical environment around him. His method of ad-

justment could only be that of trial and error. The social environment he created was directly geared to his adjustment to the physical environment around him.

There is often poetic reference to 'man's mastery over nature.' Man is only a part of the totality of nature. The record shows that for nearly the whole of his existence he has been in ignorance of the forces which influence and govern his existence. It is only of recent date that he has come into a cooperative understanding with these forces. The key to his cooperative understanding has been science. Though the written record reveals small glimmerings of science here and there it wasn't until the middle of the sixteenth century that the development of science gathered momentum. Two hundred years later came the beginning of the Industrial Revolution. Since then man has entered into an entirely new mode of physical operations relative to social sustenance.

Prior to the advent of the Industrial Revolution, man himself was the prime mover in the physical processes to meet the demands of sustenance. To meet these demands he had learned to domesticate certain quadrupeds and make limited use of the forces of wind and falling water. The

Industrial Revolution marked the first time he had come into the use of extraneous sources of energy to aid him in social sustenance. The subsequent growth in the techniques of usage and organization of extraneous energy brought into being a new-type civilization as represented by western society. Through a fortuitous combination of circumstances, here in North America, this new technological civilization is in its most advanced state.

Looking Forward

Now the esthete, philosopher and moralist, who have an aversion to the smudge of physical reality, are inclined to by-pass the significance of the above. As previously mentioned, man in the adjustments to his physical environment created his environment of social relationships. The operative base of all his social organization, the Price System, was laid down in the early phase of his social life, when he was in almost a complete lack of understanding of conditions that controlled his existence. It was only natural that the base of social organization would be premised on human toil and competition for natural scarcities. After the passage of some seventy centuries the basic tenets of his social organization and operation remain the same.

Today, in North America, the various phases of scientific expressionism in their application to the means whereby men live are daily invalidating the Price System. The acceleration in the rate of increase of technological devices utilizing extraneous energy, plus a wealth of natural resources, has created a condition of potential abundance in the matter of social sustenance and reduced the factor of human toil to almost a negligible quantity. This is a condition without precedent in all the pre-

vious history of man. It is a condition calling for an entirely new pattern of social organization and operation, here in North America, that will be in accord with this unprecedented condition.

Technocracy's blueprint of social design—the Technate of North America—is unique in the fact that it is the only complete plan for social change. It calls for the application of scientific method to the realm of social engineering. This design is in accord with the physical facts and social trends of North America and is not concerned with wishful abstractions. In the social mechanism of the Technate the mainspring will be functional ability. The distribution of an abundance will be postulated on energy degradation and not on the artificialities of debt creation and expansion. Physical law will form the economic base to contrast with the present whimsy of pseudo-economic law. The Technate will be unique in that it will come about by intellectual acknowledgment if a sufficient number of North Americans know about it. It will be the natural culmination and justification of positive historical forces.

The equal but not identical participation of the Continental populace in an abundance will elevate man to an entirely new social plane. No longer will the economic security of the few be premised on the insecurity of the many. Men, freed from the shackles and concepts of toil, can soar to new heights in the realms of culture. At last the 'dignity of man' can come into its own.

While exponents of social statics peer backward into the negativistic gloom of past history, men of social vision look forward and fill their eyes with the light of a new social day. There was more truth spoken than poetry when Walt Whitman said:

Come, I will make the continent indissoluble, I will make the most splendid race the sun ever shone upon.

Whitman's vision was the vision of a great poet. He was unaware of the present physical trends that hold the ability to convert that vision into physical reality. Today, Walt Whitman's vision stands out in bold outline. Its design has been blueprinted. It awaits only the mandate of the present physical trends that hold the people.

Reserved For The Technate

'The Geological Survey is prepared to show that large areas of potentially rich oil and gas, or mineral-bearing lands, never have been adequately explored. To be sure, the surface itself has been rather thoroughly walked out and prospected. But below the surface lie enormous volumes of rock which should contain concentrations of mineral wealth in about the same abundance in which they were found on the surface.'—W. E. Wrather, director of the Geological Survey in the survey's annual report. (As quoted by the Chicago Sun and Times, February 3, 1948.)

'Under the present tax laws if you find a body of ore you immediately have to pay taxes on it. So we are not so very anxious to go out and drill a hole in the ground and find a nice new mine unless we have need for a mine. If we do so we may be paying taxes for the next 25 or 30 years before we get down to using it. There are large areas which have not been explored, and in which we are pretty certain there are large bodies of ore, but we don't want to find them under present tax conditions.'—Wilfred Sykes, president of the Inland Steel Company. (As quoted in the Chicago Daily News, January 17, 1948.)

It is estimated that about 124,000,000 tons of iron and steel were in use in the U. S. in 1900, or about 3,300 pounds per capita. In 1947 over 1,000,000,000 tons were in use, or about 14,500 pounds per capita. —Steel Facts, February, 1948.

'Petroleum represents 0.2 per cent of the United States' total fuel reserves of all types. Natural gas represents another 0.2 per cent; oil shales 0.8 per cent and coal 98.8 per cent. . . Proved coal reserves amount to 3.2 trillion tons. If only half of this is synthesized it represents a potential petroleum reserve of 3.7 trillion barrels, or enough, at current rates of petroleum consumption, to last the country 3,000 years.'

—CHICAGO TRIBUNE, January 27, 1948.

The American Iron and Steel Institute announced recently that more than 63,000,000 net tons of finished steel products were shipped by the steel industry in 1947. The four largest users of steel are as follows. The automotive industry used over 9,000,000 tons, or about 15 percent of the total. The construction industry was second with about 8,500,000 tons, or 13½ percent of the total. Third came the container industry with about 5,000,000 tons, or 8 percent. Last came the railroad industry with not quite 5,000,000 tons or 7.7 percent of the total. New York Times, June 13, 1948.

The Massachusetts Institute of Technology has developed a new and exceptionally strong rubber. It is called ALFIN and is made out of alcohol and olefin. The two substances are mixed and shaken vigorously. A test sample can be made in two minutes.—Science Illustrated, July, 1948.

Excluding a multitude of private laws for the relief of individuals Congress has passed 9,165 public laws in the last 20 years.

Ten Commandments Of The Price System

The Seventh Commandment

By The Peripatetic Technocrat

The first six commandments of the Price System were outlined in previous issues, copies of which are still available. This article deals with the Seventh Commandment. It is: 'Keep a majority of the people always on the precipice of insecurity, ill-fed, ill-clothed, ill-housed, and in poor health, so they will always battle among themselves for preferential advantages and not unite for the General Welfare of All.'

Basis of Civilization

One of the chief differences between human social life and animal social life is the flow of goods and services in human society. Animal groups do not produce and exchange goods and services.

The flow of goods and services in human society is the basis of civilization. The manner in which it is carried on from age to age and place to place determines the variations in the institutional superstructures characteristic of every society.

The ideologies of any social system, that is, its political, philosophical, and moral concepts, also develop as a by-product of its flow of goods and services. Neither ideologies nor institutional superstructures make up the essence of any social system. They are merely the invoices and shipping labels of the system, listing its contents and showing where it is going.

The physical foundation holding up the whole structure and determining its salient characteristics is the flow of goods and services. Up to now, for long ages, the rules determining that flow have been the Rules of Operation, collectively identifiable as the Price System.

A Price System is any type of social system that carries on its flow of goods and services by rules of commerce based upon the value of those goods and services in relation to their

scarcity, together with the use of money as a medium of exchange.

Forward to the Good Old Days

Although the Price System has been in existence for thousands of years, it could never do much to advance the General Welfare of all. This was because the Rules of Operation of the Price System do not produce a single thing. They merely control the exploitation of the flow of goods and services. The production of any useful commodity is accomplished by the directed use of energy. Nothing on this earth can move without an expenditure of energy being involved.

In the past the only source of energy was the muscles of men and animals, plus that produced by windmills and waterwheels. Naturally, with production geared down to such feeble sources of energy, it never was possible to produce a great deal. That is why the Price System could never do much about advancing the General Welfare. This, it must be remembered, is a direct outgrowth of, and rises and falls with, the amount of energy available in a social system.

However, after James Watt invented the steam engine, the Price System was freed from its natural inability to promote the General Welfare. Increasingly, decade after decade, more energy became available for production. This is especially true since the

beginning of the Twentieth Century. Today, it is a fact that more than enough energy is available to produce an abundance of all kinds of goods and services for every citizen. Yet, what do we find?

With a technology capable of producing an abundance, the flow of goods and services in North America is irregular and insufficient. The Price System stumbles along from depression to war to depression. We have witnessed two major wars and a major depression in the last generation. The Price System flounders ever deeper into debt. This can end in only one of two ways, a bigger and better war or a worse depression. This is what the American Price System has done with the magnificent tools of production placed at its disposal in the last century and a half by the advance of science and technology.

Count Your Pennies

During the last depression, President Roosevelt said that one-third of the American people were ill-clad, ill-housed, and ill-nourished. He was being kind to the Price System. The correct figures were nearer two-thirds than one-third in that condition.

Income distribution figures show that in 1929 about 71 percent of families and individuals got less than \$2,500 a year. By 1935, the proportion getting less than \$2,500 had risen to 89 percent. These figures are from the Brookings Institution and the National Resources Committee, both conservative Price System bodies.

'Oh!' but you say, 'It's different now since the war.' Yes, it's true, we've just had a profitable war. Over 20,000,000 human beings were slaughtered. That required a lot of weapons, supplies, and equipment of all sorts. This was exceedingly good for business. It made lots of jobs at good pay. A lot of extra purchasing power was passed out to those who didn't get killed. Yes, things *are* a little dif-

ferent, if you don't mind the blood on our hands.

How different are conditions really? Has there been any worthwhile, permanent improvement in the General Welfare of all? Let's look at the income distribution figures for recent years. A survey of Consumer Finances, carried out under the authority of the Federal Reserve Board, reported on the money income received by 'spending units' in 1945 and 1946. A 'spending unit' is defined as 'all persons living in the same dwelling and belonging to the same family who pool their incomes to meet their major expenses.'

In 1945 about 70 percent of the spending units got less than \$3,000 a year. By 1946, this total had been reduced to 65 percent. Evidently, the killing involved in war was good for the spending units in the good old U. S. A. Five percent of them managed to hike their incomes above \$3,000 a year.

On the surface, this looks much better than the figures for 1935. However, that little item called the 'rising cost of living' comes in at this point. Three thousand a year in 1945 had nowhere near the purchasing power of \$2,500 in 1935. The honorable Federal Reserve Board notes this in passing, thus:

Despite this increase in the mid-most level of money income, many spending units in 1946 found that the effective purchasing power of their incomes did not change correspondingly because of substantial increases in the prices of consumer goods.

'It 'Ain't Necessarily So'

Ah, Me! Somebody is always taking the joy out of life. What about this chromium-plated postwar prosperity we're in now? Surely, the Price System is doing better now! Well, let's see. Technocracy is always willing to analyze every idiotic claim made by

free enterprise, and to demonstrate its emptiness and futility.

In the June, 1948, Federal Reserve Bulletin, the Board reports on another survey of consumer income for 1947. It seems that at last a few more people are entering the brackets above \$3,000 a year. In fact, in 1947 only 59 percent of all spending units got less than \$3,000, as compared with 65 percent in 1946, and 70 percent in 1945. The same report reveals, however, that the 70 percent of 1945 got 44 percent of the total money income in 1945; the 65 percent of 1946 got 36 percent of the total money income of 1946; and the 59 percent of 1947 got only 29 percent of the total money income of 1947.

Thus, we see that while a few families have managed to move up above the bare subsistence level, the real gains in income were made by those above the \$3,000 income bracket and chiefly by those in the brackets above \$5,000 a year. What has happened in our dizzy-brained, postwar prosperity is that there has been a tremendous inflation in inflated money income as a whole, and that a small part of this has dribbled down to the lower income groups and raised a few of them above the subsistence level while the great bulk of money income has gone to those who already had enough, or more than they could ever spend.

About three-fifths of all spending units in 1947 got less than \$3,000 a year and two-fifths got more than \$3,000. However, the three-fifths got only 29 percent of the total money income while the blessed two-fifths got about 72 percent. The report states that about half of the 48,000,000 spending units got more income in 1947 than in 1946, but that about 9,000,000 spending units got less. The report then adds conscientiously:

There have, of course, been substantial increases in the cost of living

during this three-year period, and so these increases in money incomes have not necessarily been gains in real income. Many spending units that were receiving larger money incomes in 1947 than in 1946 or 1945 found that the effective purchasing power of their incomes had not advanced correspondingly.

There Ain't No Such Animal

You bet. That's telling 'em! Anyone who thinks that any substantial number of people can beat the Price System needs a good dose of Technocracy. Now, what about housing and health? What is the Price System doing about those important items. Well, the answer can almost be summed up in the words of the farmer who went to a zoo for the first time and saw a giraffe. He looked at it for five minutes, and then exclaimed: 'There ain't no such animal.'

The housing situation is a continuing stink in the nostrils of our gadget-lined, postwar prosperity. It's easy enough to get a \$5,000 house for about \$20,000. And, it's easy enough to get a \$45 apartment for \$125 a month if you are willing to pay about \$1,500 for about \$50 worth of junky furniture planted in the place. Oh, yes, never let it be said that you can't find a place to live. Good old free enterprise will see to it that you get fixed up, but good, brother.

The health of the American people was revealed to be in a deplorable state by the draft records of the last war. There is nothing to show that any improvement has taken place since. The American Medical Association, in a pamphlet issued recently, estimated that two out of three Americans cannot meet the costs of a serious sickness without assistance. That is the condition in a nation that has the greatest therapeutic technology on earth.

Deaths from cancer, heart disease, and brain hemorrhages increase every year. The fact of their increase is a symptom of the growing decay of the Price System. Every carcass smells progressively worse as the process of decay advances. Census data shows that there was one doctor for every 572 people in 1850. Today there is only one doctor for every 764 people. That's the way to make good business. In fact, it can be stated as a Price System rule that poor health spells good therapeutic business.

The great majority of all 'free born' Americans are in the same boat. We wear shoddy clothes, handed down to us that way by free enterprise. We eat devitalized food fixed up for us by free enterprise. We suffer from a growing list of chronic and acute diseases produced by the operations of free enterprise. We live in dog houses built by free enterprise. We lead our petty existences from the cradle to the cemetery under the constant regimentation and insecurity produced by the operations of free enterprise.

In the richest Continent on earth, which could provide Abundance, Security, and Equal Opportunity to All Citizens, every man's hand is against every other man. The Peace of this Price System is a never-ending, fratricidal war for preferential advantages. It's a case of chisel or be chiseled, eat or be eaten, kill or be killed. Deep in his heart, every man knows this is true.

Progress Ahoy!

A great American lawyer, patriot, and public servant, by the name of Robert Green Ingersoll (1833-1899) once drew this picture of Price System civilization:

In the days of savagery the strong devoured the weak, actually ate their flesh. In spite of all the laws that man has made, in spite of all advance in science, literature and art, the

strong, the cunning, the heartless still live on the weak, the unfortunate and foolish. True, they do not eat their flesh, they do not drink their blood, but they live on their labor, on their self-denial, their weariness and want.

The poor man who deforms himself by toil, who labors for wife and child through all his anxious, barren, wasted life, who goes to the grave without even having had one luxury, has been the food of others. He has been devoured by his fellowmen.

When I take into consideration the agony of civilized life, the number of failures, the poverty, the anxiety, the tears, the withered hopes, the bitter realities, the hunger, the crime, the humiliation, the shame, I am almost forced to say that cannibalism, after all, is the most merciful form in which man has ever lived upon his fellowmen.

Those are strong words but on the whole the case is understated. The correct words do not exist in the American language to adequately describe that monstrosity of human guile known as the Price System.

It preaches brotherly love and sets brother against brother in the market place. It blabs sanctimoniously about honesty being the best policy but pays off on dishonesty. It writes that all men are created equal, then denies them equality of opportunity. It harps about peace on earth and good will to all men, then wages one bloody war after the other. It subsidizes technology to ever greater productive capacity and then chokes off the flow of goods and services. It praises science to the skies and then prostitutes its discoveries with a price tag.

Yea, Verily! Thou must 'Keep a majority of the people always on the precipice of insecurity, ill-fed, ill-clothed, ill-housed, and in poor health, so they will always battle among themselves for preferential advantages and not unite for the General Welfare of All.

Technologists Of Agriculture

More Food—Less Toil

By Stella Key, 8141-14

Food, shelter and clothing are the three essential requirements of the human animal. They can be classified under one heading—agrotechnology. That takes in an enormous amount of territory and history. Man's struggle to obtain an adequate amount of food for himself and his family and provide shelter for himself and his kin has been told in many, varied ways; by poetry, philosophy, through wars, intrigue, etc. We are not concerned herein with that historical struggle; what we are concerned with is **HOW** it is being done today. We are concerned with **HOW** the technologist looks at the problem of providing food, shelter and clothing, and how he has changed the entire pattern of ancient agriculture into modern Agrotechnology.

The Price System Way

A philosopher looks at the problem of raising an adequate amount of food, providing shelter and clothing, with complete unreality. He sees it in terms of work, for work's sake alone. The farmer plodding behind a team of horses, pulling a plow, the philosopher sees as a very romantic figure. The philosopher probably has never felt the utter weariness of muscle after a twelve-hour day of such work. He pictures the farmer gazing at a setting sun with a benign expression on his face, when, in reality, the farmer probably is worried about tomorrow's weather. Many a philosopher looks at this farming business in terms of his own childhood, barefooted, bareheaded, and the old swimming hole, but he does not make the mistake of loving it so much after maturity as to attempt to make a living on it. He merely reminisces about it.

The real estate broker, the banker, the business man look at farming with dollar signs in their eyes. The real estate broker wants to get rid of a piece of land at a profit. The banker would like to make a dime or two financing the sucker that buys

the land, provided he puts up enough security. The business man would like to sell the equipment to operate the farm whether it is suited for the job or not.

The politician looks at the business of agriculture with votes in his eyes. If times are bad, the politician is ready to promise anything to get the farmer's vote. If times are good, the politician is ready to remind the farmer that he (the politician) is responsible for the farmer's prosperity.

The farmer himself looks at his own business with 'mixed emotions' as the poets put it. His outlook is colored by whether he is in debt or not, and he usually is, or most of them are, or have been. If he is in debt, he feels insecure, becomes taciturn with anxiety and overwork. As a result, he becomes a human being that is hard to get along with. If he is out of debt, and still has his farm or property, then he becomes expansive, voluble and garrulous, and impossible to get along with.

The foregoing mental attitudes are completely subjective and generally do not solve the problem of food production, except in a hit-or-miss fashion. They are the result of cen-

turies of Price System operations. The over-all picture of agriculture is one of feast or famine. Each farmer is in competition with his neighbor. Each hopes secretly that his neighbor's crop will fail, and that his own will be a bumper crop; that the prices for his produce will be high, and what he has to buy will stay low.

Way of Technology

The technologist's approach to the problem, whether large or small, is one of complete objectivity. He views it in terms of FUNCTION. The technologists who developed rust-resistant wheat kept certain things in mind. That was to develop a strain of wheat that would be resistant to rust and at the same time give a high yield and maintain all the other qualities that make wheat 'good' from a scientific point of view.

The technologist never stops experimenting. When one objective has been reached, he then must set about doing it better. The solving of one problem creates other equally pressing problems in relation to the one that has been solved. For instance, scientists are experimenting with 2,4-D (*Farm Journal*, August, 1947) that marvel of weed killers. 'Their idea is to put 2,4-D on the soil shortly after planting and before corn comes up. The 2,4-D kills weeds and weed seed to a depth of three-eighths of an inch or so. Thus if the field is not cultivated, the other weed seed stays too deeply buried to sprout.' Here is an idea that technologists have worked out to save the drudgery of cultivating corn, every week or so. They do not make it easier to cultivate corn; they are simply eliminating the necessity for cultivating at all. Just like that! *Farm Journal* tells the story very graphically:

There are at least five reasons why the possibility of treating corn land with 2,4-D (or perhaps other yet to be

tested chemicals) should interest corn raisers:

1. It would SAVE TIME. You could be growing corn by simply preparing the seed bed, planting, apply 2,4-D harvesting. Between the middle of May and October you could forget about it.

2. You wouldn't have to cultivate corn when you should be making hay.

3. It would give better control of farm weeds. No matter how carefully you cultivate it's almost impossible to get all the weeds. And with each cultivation you're bringing new seeds near the top where they can germinate.

4. It would enable you to plant corn in any width rows you want. If fertility and moisture are sufficient, you plant 20-inch rows, for instance, without worry about cultivating.

5. You would have no need to fear wet weather, 2,4-D would control weeds rain or shine. If you depend on a cultivator (as you well know from this year's experience) you just have to watch the weeds grow when heavy rains hit.

Those are a few of the many possibilities of 'pre-emergence' weed control, or killing weed seeds before they start growing.

Dr. Gilbert H. Ahlgren, head of the farm crops department at Rutgers University, says we may be on the threshold of 'one of the major steps forward since hybrid corn.' Other authorities share his enthusiasm.

More With Less

The foregoing is typical of the scientific way. Nothing is left to guesswork or opinion. The results of such meticulous care can be readily deduced. By controlling weeds in the cornfields, the rows of corn can be planted closer, resulting in greater yield per acre and greater over-all production on less acreage. This is a step in the direction of the time when 300-bushel per acre corn will be a matter of course. (The average now is 50-75 bu. per acre.) Another step

in the same direction is the study of the right legumes and rotation crops for organic matter to be planted before corn is grown on a certain field, the right fertilizers to be used, etc. This requires knowledge of soil and plant chemistry in relation to the plant food required for corn.

Still another step is the development of hybrid corn with high yielding qualities. Almost three hundred bushels of corn to the acre has been raised in the Middle West under special conditions. What has been done on a small scale can very readily be done on a large scale. The mechanical equipment, such as planters, huskers, harvesters, are already in existence for large scale planting and harvesting of corn. Even plows that can fit the ground in one operation are in use. Special cribs for drying corn are being experimented with now. This will eliminate mold after the corn has been harvested. The grain itself is used for human and animal consumption, while the cobs can now be used to make nylon hose. Here is the story of that, as taken from the **Farm Journal**, May 1947:

Corn cobs, whose humble fate usually is to be burned in the mud of a hog lot, suddenly are going glamorous. Now they are to become (in combination with other ingredients) the raw materials for sheer nylon stockings. Oat, rice and cottonseed hulls, flax shives, and sugar cane bagasse may be similarly glamorized. . . . You don't put a cob on one end of a machine and get a nylon stocking out at the other—it's not that simple.

Corn cobs and other farm wastes must first be made into a chemical called furfural. Furfural by another chemical process is made into adiponitrile. This is one of the chemicals from which nylon is made. The process of furfural extraction has been known for years, but the application to nylon is new.

Agrotechnology Is Here

Compare mentally the methods as used by the agronomists, technologists, bio-chemists to the problems of corn raising, and its uses, with the methods used by the first corn users, the American Indians. They planted the corn in holes in the ground made by sticks, covered it up, and then perhaps did a dance to their God of fertility to please let it be a good harvest. Does that sound silly to you? Don't laugh too loud, because some of the mental cobwebs in your head are just as silly. Remember the depression days of the thirties? Corn in many places, grain and all was used for fuel, because it was cheaper to burn it than to try to sell it and buy fuel. The one-third ill-clad, ill-fed and ill-housed got a lot of political sympathy, but that was all. The American Indian didn't have the means or the ability to raise an Abundance, but never for all their primitive superstitions did they ever deny food or refuse to share their food with others. It takes the white man's philosophy to figure out how to hoard and withhold food unless inedible scraps of paper are first received for it.

In the face of what the technologist has been able to do with his test tubes, testing grounds and experimental stations, we are more than primitive in our thinking and our mental attitudes toward the ABUNDANCE that has been created. Corn is planted in May and is generally harvested in October, and in those few months of growing between planting and harvesting there has been created a force for social change with which the atom bomb cannot compare. We have the potentiality for an ABUNDANCE NOW. The providing of the nation's food, shelter and clothing depends upon the bio-chemist in his laboratory, the agrobiologist and agronomist in the fields, and the en-

gineers who design the machines to harvest.

The technologist does not have his hand in the public till, nor does he have a battery of press agents to keep his name in front of the public. Many are never heard of but what they have created has caused the politician, the philosopher, and the business man to utter such gibberish as to make the monkeys in the jungle turn green with envy and hang by their tails in mute silence.

Unless we Americans apply the

same methodology of distributing the abundance that the technologist has created by his objective analysis to the creation of it, the abundance will simply bury us and our cobwebby institutions beneath its very weight.

Are you interested in this new way of objective analysis? Contact any Technocrat or go to the nearest Section. Technocracy is showing the way, and you alone can decide when you are going to learn. Don't take too long to make up your mind. THE ABUNDANCE IS HERE NOW!

If Grandpappy Could See Us Now

'Use of machinery is picking up speed. The big Delta-type picker (cotton), which replaces human hands by plucking cotton from the boll with barbed spindles, is being produced on an assembly line this year for the first time at an International Harvester plant in Memphis. At least 1,000 of these are expected to be used in gathering this year's crop. A mechanical picker harvests as much cotton as 25 to 50 hand pickers. A Mississippi planter who is using 15 of the machines says they increase his net profit by \$25 a bale.' (U. S. News, April 30, 1948).

The International Harvester plant at Memphis, Tenn. is now turning out about 30 mechanical cotton pickers a week. Each machine displaces about 30 field hands. The company expects to turn out about 1,000 machines this year. Cotton picked mechanically is from one half to one grade below that picked by hand. However, the cost saving is enormous. One grower reports that he had his 1947 crop picked by machines for \$4.50 a bale. Hand picking would have cost \$45 a bale.

An experiment in reseeding 2,200 acres of fire-ravaged forests in Maine by air was carried out recently. Some 800 pounds of white pine seed were sown. 'A former Navy trainer biplane was used. . . He flew

50 feet above surviving treetops, seeding a fifty-foot swath with each pass. Thomas W. McConkey, in charge of the forest, said air seeding costs about \$3.50 an acre, compared to \$35 an acre for planting seedlings by hand.'—NEW YORK TIMES, March 7, 1948.

'In the ten years from 1936 to 1946 the average egg production of layers in the flocks increased from 121 eggs a year to 155. The National Poultry Improvement Plan got under way on a national scale in 1936. In 1936 there were 1,017 hatcheries operating under the NPIP. In 1947 the number was 4,498. The egg capacity of the hatcheries under the NPIP was 38 million in 1936 and 326 million in 1946.'—U. S. D. A. CLIP SHEET, March 21, 1948.

Giant fans, called wind machines, have proved they can provide better frost protection for citrus orchards at one tenth the cost of the traditional oil-burning smudge pots. This was demonstrated by experts from the University of California at Los Angeles. The New York Times for June 6, 1948 in reporting this states: 'The machines, Dr. F. A. Brooks said, simply capitalize on the fact that the ground is the main reservoir of heat for retarding the cooling of air, and that transfer of this heat is accelerated by stirring up the air.'

Oh Canada!

By Canadian Correspondent, GLT

One Continent—One Culture

Birds of a Feather

Canada is in the midst of the biggest capital investment boom in its history. Over \$2,800,000,000 will be spent this year for new plants, equipment, etc. Business Week for May 1, 1948, states: 'The lion's share of the \$2.8 billion investment program will go for industrial expansion. Manufacturing industries lead the field.' Moneywise this expansion is 17 percent greater than in 1947. However, due to the fact that prices are averaging about 17 percent higher in Canada this year the physical volume of expansion is about the same as in 1947.

'Construction of a steam electric generating plant in the Toronto or Hamilton area is being studied by the Ontario Hydro-Electric Power Commission.'—Chicago Tribune, April 15, 1948. Robert H. Saunders, chairman, announced that the Commission has already decided to expropriate property in Windsor for a steam generating plant which would produce 320,000 horsepower from coal. The project may have to await installation of 60 cycle equipment which is expected to be completed in the Windsor area in three to four years. The Windsor area was chosen for two reasons. First, coal can be delivered to the plant from lake boats. Second if the plant is situated there it will assure power to automobile plants no matter what happens to the hydro power plants.

Engineers who laid out the Alcan Highway little dreamed that this route was used countless centuries ago by Asiatic peoples migrating to the North American Continent. Dr. Douglas Leechman, archaeologist of the National Museum of Canada asserted recently that camp sites dating back 8,000 years 'have been uncovered along routes which parallel the Alcan and other Canadian highways.'—Chicago Tribune, April 20, 1948.

British Columbia, Canada's westernmost Province is in the midst of a great industrial expansion. The Wall Street Journal for April 27, 1948 lists the following among some of the new projects.

A new steel rolling mill at Vancouver with a capacity of 25,000 tons of finished steel annually. A new wood pulp plant will be in operation at Prince Rupert sometime next year. A plant turning out 5,000 square yards of wool floor covering every eight hours will be in operation at Victoria this Summer. At Port Moody a large oil company has bought 300 acres for the construction of an oil refinery. Plans to set up a perfume factory at Vancouver were announced by a Seattle perfume manufacturer. Another Canadian firm has obtained rights to a Danish process and will build a plant at Vancouver to turn out 6,000 cellulose sponges a day. British and Scotch manufacturers are said to be eyeing British Columbia as a site for new branch plants.

Until a year and a half ago B. C. had to ship its matches clear from Ottawa, 3,000 miles. Today there are two match factories there. Older industries in the province are modernizing also. By late Summer the Powell River Company will have a new newsprint machine in operation. It runs 600 feet faster than the old one and will turn out a mile of newsprint 22½" wide every two and a half minutes.

Still lacking are shoe factories and glass factories. Everything of that nature has to be shipped in. 'Government experts also list among the needed industries: Linen and wool, high-grade clay products and china, cements and magnesium chemicals, ferro-alloys, development of lead alloys and pigments and hydrogenation of fish and vegetable oils.'

'Last June in parliament there was a great fuss about giving American officers control over their own troops while on

Canadian soil. The House of Commons, according to the Montreal Star, 'had a field-day of arm-waving and speech making.' We had better get over that sort of childishness.

'If we really cannot stomach having American troops on our soil, we had better give them some pieces of it. We might let them have some of our Arctic islands, or even some of our mainland. If we could do a deal with them, and get in return the bulge in the State of Maine or even better still part of Alaska Panhandle, so much the better. But we do not need anything in return; there is no investment so valuable to us as a piece of land donated to an American who is willing to get killed on it in order to defend us from invasion. American defence installations in corners of our country constitute no real threat to

our independence. If the United States wanted to use military invasion or infiltration to take over Canada we should have gone that way long ago.'—Wynne Plumtre, associate Editor of Saturday Night in an address delivered to the Regional Conference of the Canadian Institute of International Affairs at London, Ontario, March 27, 1948.

'It is a sad fact that in our efforts to promote nutrition campaigns we are up against the fact that high prices make it impossible to give children the things they need. The butter price is disgraceful and because a butter substitute is excluded children die.'—Dr. Frank Lloyd of Coburg, Ontario in a talk before the Rotary Club of that city. (As quoted by the Toronto Evening Telegram, February 9, 1948)

After Us The Desert

At the bottom of the ocean reaching out for more than 20 miles from the mouth of the Columbia River there now rests an extensive layer of rich top soil from the farm lands of Washington, Oregon, and Idaho. It wasn't there a few months ago. It was where it belongs, on the farms of the three states mentioned. But, there was a flood you see. The flood carried this top soil right away from under the noses of the stupid human beings engaged in the business of mining this soil. 'After us the deluge,' said Madame De Pompadour to Louis XVth. 'After us the desert,' might well say the soil miners of Washington, Oregon, and Idaho.

In the Portland Oregonian for June 27, 1948 J. H. Christ, regional representative of the Soil Conservation Service estimated that about 160,000,000 tons of top soil were washed into the Pacific by the recent floods. In addition over 4,000 acres were lost forever by river bank cutting.

Any social system that permits any group of private enterprisers to play wild and loose with its number one natural resource like this stands condemned for outstanding stupidity. When you reflect that

we now have the scientific knowledge to conduct our agricultural operations on an agrotechnological basis the indictment is multiplied. Never before in human history has any people known so much about how science can be applied to the General Welfare and done so little about it.

Don't blame the farmers. Blame the North American Price System of trade and commerce. If we don't get rid of it pretty soon there won't be much left of North America.

'Under our present conservation program we are losing about 500,000 acres of crop land each year through erosion, silting, improper land use, and other preventable causes.' Clifford R. Hope (Rep., Kan.) chairman of the House Agriculture Committee in a statement upon introducing his bill creating a 'National Land Policy.' As quoted by the Peoples Lobby Bulletin, May, 1948.

MISSING LINK—The gap between the promises and the performance of free enterprise.

Short, Short Story

Price System Family Life

'The sanctity of marriage and the family relation make the corner-stone of our American society and civilization.'—James A. Garfield, (1831-1881) 20th President of the U. S.

'Suffer Little Children'

William W. Harvey, 36, a radio announcer, and his wife were evicted from their home in Lake Worth, Fla., recently. It was not a new experience for the Harveys.

Starting from Binghampton, N. Y., with their seven children, Billie 8, William Jr. 7, Edith 6, Virginia 5, Diana 4, John 2, and 9-month-old baby Tom, they had traveled from city to city seeking for enough security to establish their family life on a stable basis.

All the jobs Harvey was able to get turned sour for one reason or another. No sooner would they get half-way settled down in one place when they had to move again. Their savings dwindled lower and lower.

Mrs. Harvey acquired a heart condition. The doctors told her she had only two more years to live.

Finally, things got so tough for the Harveys that they were forced to apply for relief.

The honorable politicians extended sympathy, but told them they had not been in residence in Florida long enough to qualify for relief. No doubt this provision of the law has some-

thing to do with the Sovereignty of the Great State of Florida.

Where the Sovereignty of the Harvey family comes in doesn't seem to matter under this Price System.

After serious consideration, Mr. and Mrs. Harvey decided on the only possible course of action, best for all concerned.

They decided to give their children away.

Mr. Harvey put an ad in the paper. In two weeks the deed was accomplished. On the day before Father's Day, June 13, 1948, the last of their seven children was bundled off to a strange, new home. Said Mr. Harvey:

Now maybe they'll be able to have the things we couldn't provide for them.

Said Mrs. Harvey:

I couldn't face the prospect of putting the children in a home, not knowing how they'd be kicked around. It's best this way. We've met the new parents and we're satisfied the children will have the love and affection they need.

Mr. and Mrs. Harvey, minus the offspring of their flesh and blood, left for Miami the next day. (Data from Cleveland Plain Dealer, June 22, 1948).

Write Your Own Heading

According to a Twentieth Century Fund report, families with incomes under \$500 contribute as large a proportion of their income to the church as those with incomes between \$5,000 and \$10,000 a year, and more than twice the proportion con-

tributed by those with incomes over \$10,000 per year.

The dead bodies of 405 Chinese babies were found on the streets of Shanghai in the first week of April, 1948.—Chicago Daily News, April 8, 1948.

From The Camera's Eyevew

Fetch and Carry

Webster says that to convey is to transfer, transmit, or transport something. Thus, you can convey a title by a transfer of legal rights. You can convey false ideas by transmitting misinformation. Finally, you can convey goods and services by various means of physical transport. The ancient Price System has always gone in heavily for the first two types of conveying.

It has conveyed title to our natural resources from a natural common ownership to a privileged private ownership, by legal means. It conveys false ideas about social problems by transmitting misinformation. On the other hand, it never did much about conveying goods and services to people at any time.

Today, an abundance for all is possible. Yet, the Price System is not conveying adequate goods and services to all the people. Nor has it any intention of doing so. Any serious effort along that line would knock the props out from under this system. For there is nothing that will cause people to change their ideas as quickly as a physical demonstration. Too much of that kind of business would be fatal for any kind of business.

The following pictures show various methods of conveying commodities. Take nitrate ore for instance. What is the best method for conveying it? The 'rubber railroad' shown below has conveyed over 77,000,000 tons of nitrate ore and is still on the job. That type of physical demonstration is what is conveying the idea that abundance is possible if we only kick out this ancient Price System.

Photo: Goodyear Tire and Rubber Company





Photo: Raybestos-Manhattan, Inc.

This huge traveling stacker 'was built to deliver 800 tons of overburden per hour.' Boom is 190' long. It works in summer sun and winter snow, conveying materials, doing a job. That's what you might call the spirit of Technology, doing a job.



Photo: Goodyear Tire and Rubber Company

Another conveyor at work conveying aggregate 'upstairs' to a batch plant for making concrete at Granby Dam, 885' long and 232' high, on the Colorado-Big Thompson project. Granby Dam is an earth dam but concrete is used in pump plant, etc.

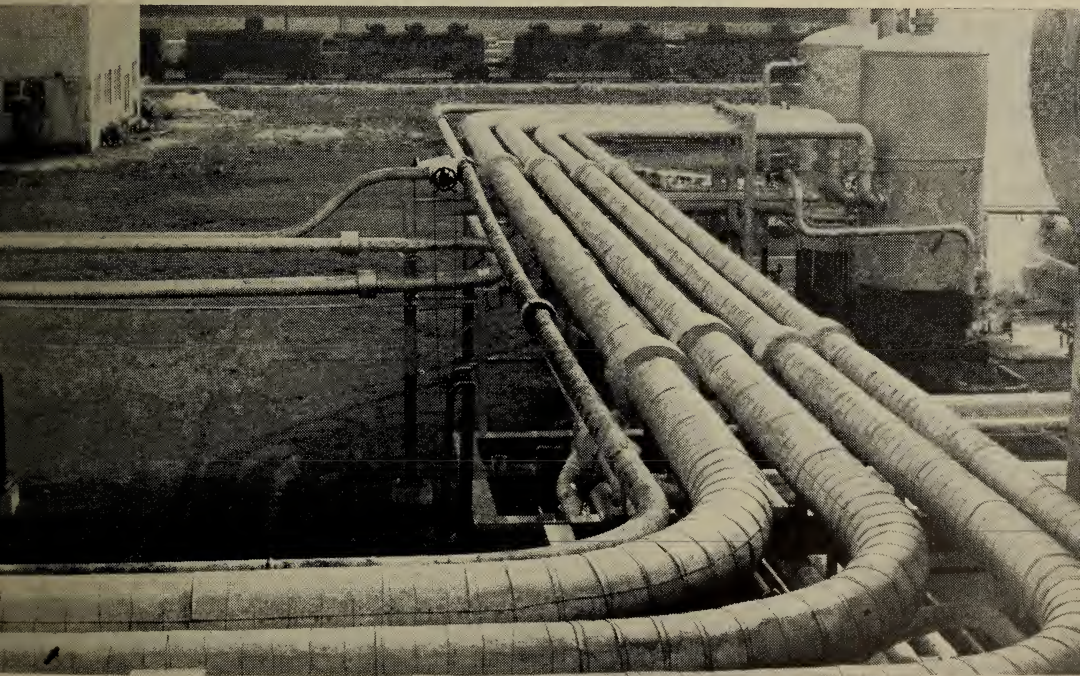


Photo: By Corsini; Standard Oil Co. (N.J.)

Oil being conveyed unseen through a maze of pipes to storage tanks at a refinery in Texas. Much like this, the impact of technology is being transmitted unseen through our social system except by those who study the social effect of technology.

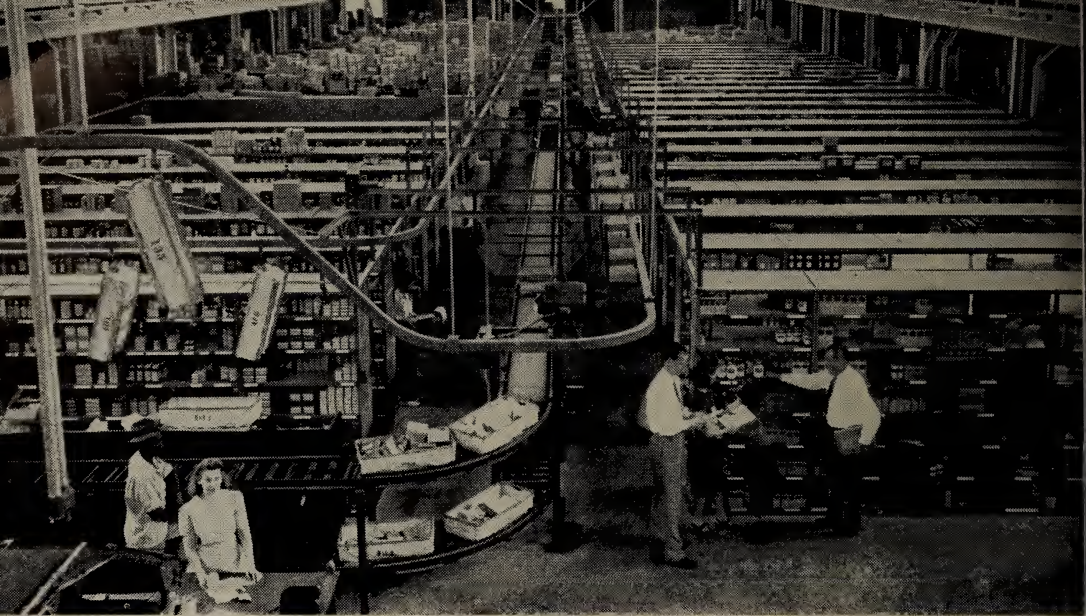


Photo: McKesson and Robbins, Inc.

Here's a double-deck conveyor system with return overhead conveyor for empties. Goods enter rear of plant and leave by front. System includes teletype, telephones, pneumatic tubes. A minimum of handling is involved. That's the way of technology.



Photo: Wayne Co. Mich. Board of Road Commissioners

This seemingly intricate pattern at the interchange of two expressways in Detroit is simplicity itself when studied a little. That's the way it is with technology applied to social problems. It looks tough, but it's easy. Try it and be convinced.



Photo: Goodyear Tire and Rubber Company

Airfoam products going in an endless stream from the production equipment to the shipping room, on conveyor belts. No horses, men or wheelbarrows, no trucks, lifts, hoists, gas fumes, or noise. Just smooth, quiet efficiency. That's technology.



Photo: U. S. Steel Corporation Subsidiaries

Technology invades a doughnut factory with a conveyor belt that turns corners from the cooker to the packaging machines. Note the pleased expression on the man's face. Bet a dime against all the holes in those doughnuts he's a fan for technology.

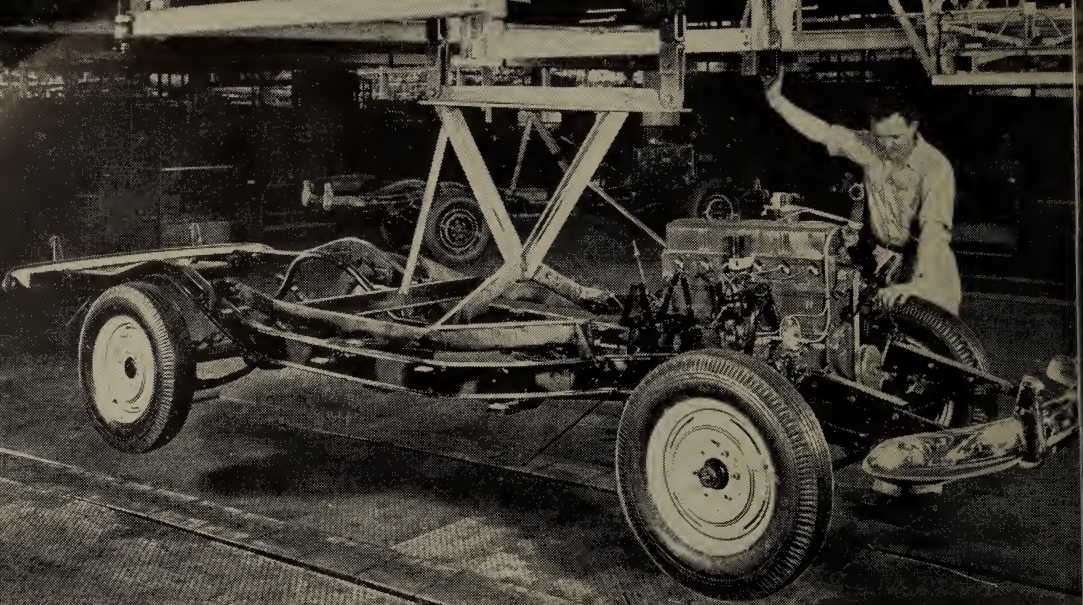


Photo: General Motors Corporation

The new Chevrolet plant at Flint, Mich., has about four miles of 'suspended assembly' conveyor lines, permitting men to work at bench levels. Capacity is a car a minute. Here, the chassis is coming down onto floor conveyor for assembly of body.

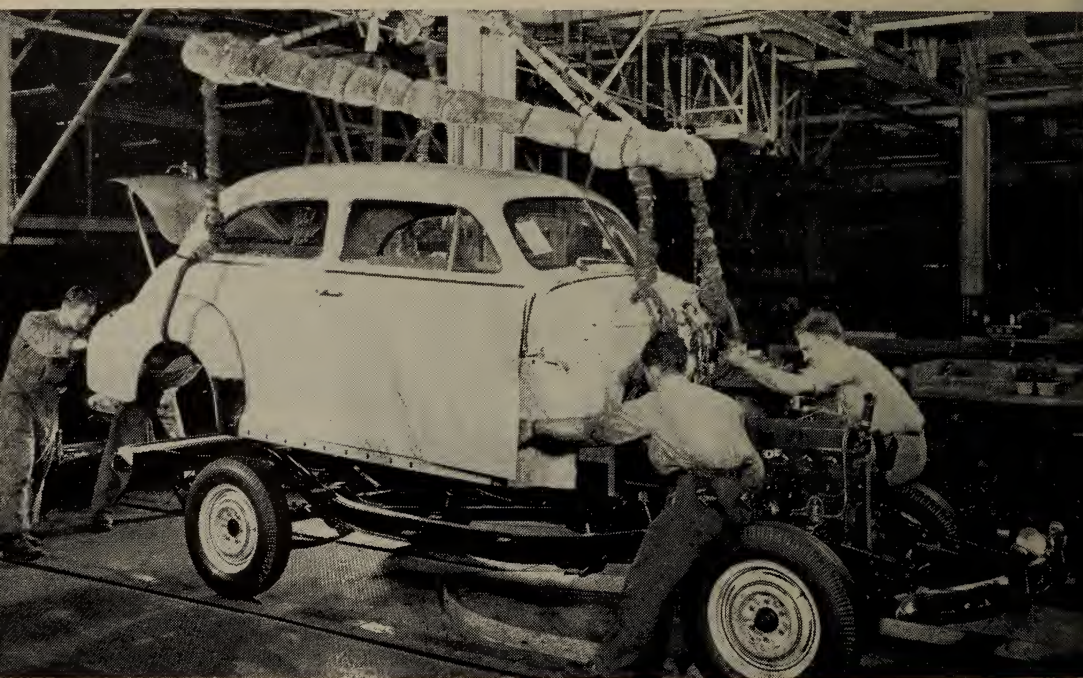


Photo: General Motors Corporation

Down comes the body to be united with the chassis. Teamwork and technology does it. That same combination applied to our social problems will clear up our social mess. Please convey this information to everyone you know. It's the only way out!



Photo: Illinois Central Railroad

Less-than-carload shipping containers interchangeable between auto trucks and R. R. flatcars. Container is lifted from trailer by hydraulic lifts and shifted to flatcar by winch and cable. This begins coordination between R. R. and highway transport.



Photo: Illinois Central Railroad

In the Technate railroad, marine and highway transport will be fully coordinated with each other and with commodity distribution terminals by standard interchangeable containers and a uniform shipping, warehousing, and retail distribution system.

Flashes Of American History

XIII—The Agrarian Revolt

In Three Parts—Part I

By Ben H. Williams, 8141-15

In an agrarian economy, such as that of North America throughout the colonial period and well into the Nineteenth Century, it was inevitable that the greater portion of the population should turn to agriculture as its source of livelihood. It did not follow that the (majority) dirt farmer ruled the colonies or the United States economically or politically in that period any more than as a minority he does today.

Ruling Oligarchy Number One

Those 'embattled farmers' who at Lexington and Concord 'fired the shot heard 'round the world,' returned from their long and bitter struggle for 'life, liberty, and the pursuit of happiness,' and against Britain's intolerable 'taxation without representation,' only to find the cards still stacked against them. An oligarchy of landlords and merchant princes had been outdoing the hated English Tories in the eight years of war, and had succeeded only too well in fastening their economic and political control over the new 'land of the free and home of the brave.' At the close of the War for Independence, the farmers found themselves in the clutches of mortgage sharks and other creditors who, with the complete backing of the courts, sent hundreds of them to jail under the old English law of imprisonment for debt, which was still in operation and which applied to delinquent taxes as well as to other debts.

Minor Rebellions

A few years later, at the very mo-

ment when in Philadelphia, Alexander Hamilton's assemblage of the 'well-born'—landholders, merchants and lawyers—was debating in secret the various aspects of a proposed new Constitution for the States, and expressing grave concern over the 'dangers of democracy,' the farmers of Massachusetts, under Daniel Shays, were marching over the hills and through the valleys of that State, releasing debt prisoners and closing hostile courts.

Shay's Rebellion having been disposed of shortly, with the chief grievances eliminated, the next minor rural disturbance occurred a few years later in western Pennsylvania. There the farmers were impelled by the inadequacy of transportation facilities to turn their surplus grain by distillation into whisky, in competition with the rum-carriers of the Atlantic seaboard. A tax of seven cents a gallon on whisky having been imposed by the Federal Government in the 1790's, the notorious 'Whisky Rebellion' ensued. The rebels raised a seven-star flag, threatened secession, and defied the local authorities. The disturbance continued until President Washington had mobilized an army of 15,000 militiamen, thus cowering the rebel farmers into outward submission, while driving their lucrative racket underground.

The Rural Frontier Moves Westward

About this time a safety valve against 'rebellions' seemed to have been found in the escape of increasing numbers to the frontier which was slowly receding westward beyond

the Appalachians. Here the native Indians were shoved back, forests ruthlessly destroyed by ax and fire to make room for farms, and remote towns and villages founded which later were to expand into great cities. Came the Louisiana Purchase, doubling the area of United States territory, along with Jefferson's timid suggestion that the trans-Mississippi region be left without settlers until the eastern area should be more densely populated.

The Landlord Supreme

Meanwhile, the conflict between absentee landlords and 'squatters' was in full swing. The squatter might talk about 'occupancy and use' being a fit title to his holdings, but the courts were most certain to decide in favor of the absentee landlord, whose often shady titles to vast estates had been validated by the highest court of the land. So, you see, there was little or no 'free land' for bonafide settlers. The oligarchic control by the landlords traveled to and embraced the ever-receding frontier.

To shorten our story, we pass over the era of canals, which somewhat speeded up the westward movement, with the advent of the railroad, approach the dynamic 'winning of the West.' Following the completion of several main lines to the Pacific, and accompanying the building of thousands of miles of branch lines, a growing swarm of settlers sustained the fastest and longest real estate boom in U. S. history. The Homestead Act by Congress in 1862 was the first real concession to the bonafide settler, and although far from being 'free land,' it tended to eliminate the squatter. Still, the ubiquitous landlord gained a most powerful ally in the railroad magnate. The big railway companies, having in their possession some two hundred million acres granted them by Uncle Sam, assumed the role of

giant landlords themselves. Railway-controlled land companies also grabbed all the town-sites along the way, and sold lots at premium prices to prospective business men and town residents. As available homesteads became scarce, dirt farmers had to pay in many cases exorbitant prices for acres which Uncle Sam had donated to the railway builders.

'Free Enterprise' and Our Pioneer Farmers

That was not all to the initial headache afflicting the dirt farmer in the winning of the West. The Homestead Law required the applicant who filed on government land to wait five years before acquiring title to the same, during which time he must do a certain amount of work each year on his claim. At the end of five years the settled 'proved up' and became the owner. That is, if in meantime he had not acquired a mortgage. Under the conditions, the mortgage was certain to be there, not alone on the land, but on all the chattels of the homesteader as well.

Now came the struggle of this harassed settler not only with the mortgage shark and his high rate of interest, but with other institutions having strangleholds on the farmer's living conditions. Improved technology since the Louisiana Purchase had brought indispensable farm machinery into the field, and implement manufacturers and dealers were making merry at the dirt farmer's expense. At that period, identical American-made farm machinery was selling in Middle Europe at prices 25 to 50 percent less than in Middle America. Other speculators in indispensables of all sorts reached out after liberal portions of our farmer's modest income. Grain elevators got their take largely through 'careful grading,' which usually meant a substantial reduction in price per bushel.

And, having passed the elevator, with its 'grades' and often short weights, the one way to market for farm products was the railway, and the poor farmer was at the mercy of this carrier in the matter of rates, which usually were highest to those least able to pay.

Nature Piles on the Agony

Added to all these and more, nature at frequent intervals played pranks upon our sturdy settler of the great plains. Devastating droughts preceded or followed heavy crop years, tossing the farmer from one horn to the other of the price dilemma. The drought left him without feed for his livestock, which had to be rushed to market half grown and at ruinously low prices; the heavy crop found the price of grain below the cost of production.

(The writer remembers several such years in Nebraska. In 1889 a bumper crop of corn dropped the price to nine cents per bushel. Farmers everywhere burned corn that winter in place of coal. The next year a short crop from drought forced these same farmers to haul back corn from the elevators at not less than 50 cents per bushel. The

devastating drought of 1894, with the first of the great dust storms, bankrupted thousands of Nebraska farmers, and forced other thousands to sacrifice their farms to speculators for little more than temporary relief stakes. One instance: A 160-acre farm in south central Nebraska sold in the drought year for \$1,200. Two years later, with the return of rains and higher prices, the buyer sold this quarter-section, without meanwhile having a dollar in improvements, for \$7,200.)

In the cotton belt and other sections of the South, somewhat different though even more oppressive conditions prevailed. The 'emancipated' slave had surrendered the security of the human chattel to the serfdom of the sharecropper. The former slave was now bound by debt to a new master, the merchant creditor, more ruthless and exacting than the pre-war patriarchs, even the Simon Legrees, had ever dared to be. The 'poor whites,' though successfully used as pawns in the game of 'white supremacy,' fared little better, in their efforts to rise out of the morass of Civil War devastation and the post-war 'reconstruction.'

(Continued in next issue)

Good Old 'Free Enterprise'

According to a Twentieth Century Fund report cities with a single daily newspaper numbered only 350 in 1900. By 1920 they had risen to almost 700 and by 1937 to nearly 1,100.

Although chain newspapers in 1935 amounted to only 17 percent of all daily and 25 percent of all Sunday papers, says a Twentieth Century Fund report, they represented 42 percent of total daily circulation and 52 percent of total Sunday circulation.

"The federal reserve banks are 'banker's banks.'" They do the same job for banks that bankers do for individuals and businesses. The federal reserve board, for example, lends money to banks. If the board makes credit hard to get, then banks in turn must "tighten up" their own credit rules. Thus what the federal reserve board decides in money matters has an almost direct effect on businesses.—Extract from an editorial in the CHICAGO TIMES, January 31, 1948.

Primer Of Technocracy

A Challenge To Youth

By Henry Elsner, Jr., 8342-1

A World We Never Made

As we, the youth of America, awoken to a realization of the world about us, we see a picture of vivid contrasts. Europe, once the center of Western civilization, is now a shattered corpse, a grim reminder of a generation of futility. Asia, Africa, and South America are in the midst of turmoil resulting from the adjustment of medieval culture to twentieth century technology. Only North America has come through a great war with her fields unscarred, her cities of concrete and steel jutting to the skies, her industrial complex humming with a song of power.

The world today looks to North America for leadership. The Continent which produced the atomic bomb has become the symbol of modern technological civilization to millions of the world's destitute people. But, if we look beyond America's belching smokestacks, her shining rails, her towering skyscrapers, at the people who operate the machines, ride the elevators and sign the papers, we sense something wrong, a paradoxical note in the Continental scene. Instead of a unified people looking forward with assuredness to a brighter tomorrow, we see a people disunited, fear-ridden, and confused. In the midst of dazzling scientific achievement, we find abysmal social failure.

Can we, North American youth of 1948, allow ourselves to be pulled down into this maelstrom of chaotic living without even asking how come? How is it that a Continent, wallowing in abundance, is unable to adequately feed, clothe, house and educate the majority of its citizens? How is it

that in a land with plenty for all, we find pressure group aligned against pressure group, each striving for advantage at the expense of the others? How is it that the Continent responsible for the atomic bomb has been unable to furnish a statesmanship able to remove the threat of war, which hangs like a black shroud over America? How is it that 'freedom of speech' has come to mean an incessant barrage of hate poured forth from the left, the right, and the center? How is it that a people, whose ancestors broke the shackles of old-world tradition to carve a civilization out of a wilderness, are unable to break the bonds of futility and confusion which hold them so helpless today?

These questions must be answered, for if they are not, is not everything we may try to do futile, without meaning!

The story of man's progress has been one of constant adaptation to a changing environment. North America today is faced with the problem of adapting pre-industrial concepts to the pace of modern science and technology. In this our society has failed, for all about us we see the tragic results of a steadfast clinging to a way of thinking which was invalidated by the puffing of Savery's first crude steam engine. Individual and collective philosophies which have served western civilization for centuries are found to be suddenly inadequate to resolve the realities of today. The statement that America is at a crossroads in her destiny is a hackneyed one that has been mouthed by every soap-box orator since the

turn of the century. Yet today even the most myopic observer is forced to hear the ring of reality in these oft repeated words.

Is there a way out of all this chaos and confusion? If there is, what can we who must live in a world not of our own making, do to provide the answer? Where can we look for leadership?

Be Your Own Leader

The first thing that we American youth must realize is that the problem lies squarely with us. The previous generation has attempted a solution and has failed. Our leaders of today are tired old men whose most notable accomplishments during the past quarter century have been two world wars and a devastating depression. And we dare not wait for the next generation to solve our problems for us. For if we do, most of us will not be here long enough to see the solution worked out. We must realize, then, that only we can provide our own leadership.

And the solution? How can we succeed where so many others have failed? Our leaders today, statesmen, economists, educators, have failed because they are thinking in terms of symbols that have no meaning in the physical world, here and now. There

is one and only one way that we can clear the fog away and work in the sunlight. We must take the same tools of science which have built our technical colossus and apply them to the social, economic, and psychological problems which confront us. The youth of this Continent must take the scientific method out of the microcosmic world of the laboratories into the macrocosmic world of human society. We must clear away the old ideas that bind us to a past that is forever gone; we must wipe away the confusion and indecision which enshroud our land and replace it with the clearcut perception of the scientists. The people of North America will then realize that their scientific and technological advances have brought not fear and frustration but have provided the basis for a new, positive culture of liberty and harmony, such as was never dreamed possible by even the most optimistic of ancient philosophers.

When we, the youth of North America, have set our house in order, we will be able proudly to offer the example and the leadership which the rest of the world so sorely needs. Time is running out with every passing day. We must make our decision and we must act. American Youth Must Show The Way! Join Technocracy!

Who Owns Science, Anyway?

'American education has been too much private and personal and too little public and social. Curricula have contributed much to professional and vocational efficiency, but far too little to an understanding of the forces transforming the nature of civilization.'—Professor Newton Edwards of the U. of Chicago at the opening conference of administrators of public and private schools. (As quoted in the Chicago Tribune, July 15, 1948)

'Society is faced with the basic problem of what to do with scientific knowledge and this is of even more immediate importance in many ways than the further development of science itself.'—Robert C. Stauffer, professor of the history of science at the University of Wisconsin. (As quoted in a story in the CHICAGO SUN, December 11, 1947.)

Technocracy In Your Trade

Women In Industry

By Anne Laurie

Slave of a Slave

Women in industry are nothing new in the U. S. Over a hundred years ago women and children worked in the mills of New England in large numbers. Bulletin No. 605 of the Bureau of Labor Statistics states that: 'working hours (in the mills then) were from 5 a. m. to 7 p. m., with half-hour recesses for breakfast and dinner. Weekly earnings averaged about \$1 for children and \$2.50 to \$3.00 for women. Often they were paid in goods instead of money.'

It was not until 1842 that Massachusetts passed a law limiting the hours of work for children under twelve years of age to 10 a day. A 14-hour work day for women and a slightly shorter period of work for children was considered good for them in those good old days. The general attitude was well expressed by one of our 'founding fathers,' Alexander Hamilton. Bulletin 605 quotes him as saying at that time:

The husbandman himself experiences a new source of profit and support from the industry of his wife and daughters. It is worthy of particular remark that in general women and children are rendered more useful, and the latter more early useful, by manufacturing establishments than they will otherwise be.

Mr. Hamilton was correct. Women and children were rendered more useful to the Price System than by their employment in manufacturing establishments. The physical degeneracy and mental illiteracy that accompanied this 'usefulness' didn't count, of course. The Price System is not interested in the physical welfare or mental uplift of its human com-

ponents. Human beings are only a part of its stock-in-trade.

Ah, but you say, that was a hundred years ago. Our glorious free enterprise system wouldn't permit such conditions today. Oh, no! Since when?

In October, 1947, according to census figures quoted in the Labor Information Bulletin, April, 1948, there were about 2,250,000 children 14 through 17 years of age at work in the U. S. Uncounted thousands are employed at work listed as hazardous even for adults.

The *Monthly Labor Review* for February, 1948, reports that children were employed in 1947 in 'every major industrial group.' It adds that: 'A high rate of violations of the child labor provisions of the Fair Labor Standards Act persisted through the fiscal year 1947.' Only 18 of these Sovereign United States as yet have laws establishing a basic 16 year minimum for employment of minors.

What Is Home Without a Mother?

As for the women, well, there are more of them at work today in industry than ever before, except for a short period during the late war. It's not that women want to work outside the home. It's a case of have to or eat less. The *Wall Street Journal* for June 16, 1947, puts it this way:

The high cost of living and the trouble husband's salaries now have "making ends meet" is driving an army of women out of the kitchen, looking for paying jobs . . . With the great war-time Army-Navy demobilized and more man than ever back at "bread-winning" there are still five million more women working in business and industry than in pre-war 1940. Since that year male employ-

ment has climbed 20%. But women at work have increased 50% to well over 16 million.

This is not a short term trend attributable to postwar 'full employment.' It has been going on for a long time, reflecting the growing insecurity, characteristic of the Price System.

In 1900 there were about 25,000,000 women in the population and 20.4 percent of them were in the labor force. In 1940 there were over 50,000,000 women in the population and 25.4 percent of them were in the labor force.

Census figures show there were 769,000 married women in the labor force in 1900, comprising 5.6 percent of the married woman population. In 1940 there were 4,561,000 in the labor force comprising 15 percent of the married woman population.

By 1947 there were 16,000,000 women in the labor force. They comprised 23 percent of the married woman population; 56 percent of the single woman population, and 35 percent of all the widowed and divorced women.

Although the proportion of the single, widowed, and divorced woman population in the labor force is greater than that for the married woman population, the rate of increase or addition to the labor force, of married women, is much higher.

In 1900 the percent of the single, widowed and divorced woman population in the labor force was 38.7 percent. By 1940 it had increased to 40.5, or an increase of 4.7 percent. The married woman population in the labor force increased in percentage between 1900 and 1940 from 5.6 to 15.2, or an increase of 171.4 percent. In 1946, Census figures show widowed and divorced women workers comprised 16 percent of the woman labor force; single women made up 40 percent; and married

women topped the list with 44 percent of the jobs held by women.

When the Devil Drives

Today, married women workers outnumber all other types in the entire labor force.

This is something new in American Price System history. It never happened before in peacetime.

The **Monthly Labor Review** for December, 1947, states:

The increase in the proportion of married women who work is a long-time trend influenced by economic and social forces likely to continue. Often the woman worker must carry the double load of homemaking, as well as paid employment, through a good part of her working life.

The 'long-time trend' referred to is the ever-growing insecurity of the Price System. More and more women, of all ages and marital status, are being driven into the market place where man-hours are bought and sold. In April, 1947, about 30 percent of all the women in the U. S. were in the labor force as compared to 20.4 percent in 1900. Women workers composed 28 percent of the total labor force in 1947 as compared to about 18 percent in 1900.

During the war the Women's Bureau of the Department of Labor carried out a survey among women workers in 10 war-work centers. The women were asked if they intended to work after the war, and why. Almost 92 percent said they expected to remain at work after the war. The reason given in all cases was economic necessity. Only 8 percent said they would work because they liked to work.

The 1940 census reveals that the proportion of wives who work is always higher when the husbands are in low income groups. The data shows that in families where the husband earned over \$3,000 a year, only

5.6 percent of the wives worked in industry. In families between the \$2,000 and \$3,000 mark, 9.2 percent of the wives worked. Where the husband's income was between \$1,000 and \$2,000 about 20 percent of the wives worked. Finally, in families earning less than \$1,000 a year, the percent of wives working ran from 20 percent up to about 28 percent, in inverse ratio to the husband's income.

The above data apply to white married women. Among Negro married women, the compulsion to work is greater. About 33 percent of them worked in industry in 1940.

Half the Human Race

The economic life history of women is no different from that of man. As we noted in the beginning of this story, women have always worked in industry in the U. S. It is the trend that is important. The percent of the total woman population in the labor force; the percent of the total married woman population in the labor force; and the percent of the total single, widowed, and divorced woman population in the labor force have all been rising since 1900.

Here is conclusive evidence that all the sanctimonious hogwash of the Price System about the 'great American home' is just so much sucker bait to hide the inability of the Price System to actually promote the real welfare of families and family life. Ever more and more women are being forced to work in industry so that their families may be able to 'get by.'

Not only are women forced to work in industry, they are also subjected to a special type of exploitation and discrimination on the job just because they are women. When a woman fills a so-called man's job, she rarely receives equal pay for the same work. Another point where women are discriminated against is in promotion or advancement. They hardly ever have equal opportunity to advance.

Only nine States in the U. S. have equal pay laws, and some of these apply only to specific occupations, such as school teachers. The Women's Bureau of the Department of Labor observes as follows in its Leaflet No. 2, 1947:

When the Butcher, the Baker, the Candlestick Maker and all other merchants sell their wares, the asking price is the same to all persons—men and women alike—Price tags have no sex differentials. YET, when women go out into the business, professional, or industrial world, they often find that a job carries one salary for a MAN, and another for a WOMAN.

Not only are women workers discriminated against on the job, they are also the first to be laid off. The *Monthly Labor Review* for December, 1947, pronounces gloomily, but factually, as follows:

Should there be a decline from the present full employment level, the experiences of women in the labor market indicate that, compared with men, women are likely to suffer unemployment to a disproportionate extent and to find difficulty in regaining jobs, particularly those characterized by better pay and better working conditions.

Inferiority Begets Inferiority

Besides being discriminated against in industry, women also have a harder row to hoe in the professions. Except for nursing, teaching, social work and library work, the proportion of women employed is generally far less than men. In the practice of medicine only 5 percent are women; in pharmacy about 13 percent; in dentistry less than 1 percent; in law about 2 percent; in architecture about 2 percent; in chemistry 3 percent; and in engineering only .3 percent.

This unbalance is not because women, as a group, are inferior to men. It's their opportunities that are inferior. And, behind the inferior op-

portunities for women is the inferior social system we all exist under, known as the Price System of Trade and Commerce. The Price System has always accorded women an inferior position to men. It probably always will. No doubt, a minor softening of its worst abuses toward women can be accomplished by the slow, tortuous process of political action or moral suasion. But nothing of permanent value to the race as a whole, or to the General Welfare of all will ever be conceded by the Price System.

The Price System is not organized to promote the General Welfare. It is organized strictly as a social system to exploit the natural resources and the human components of the area in which it operates. The North American Price System operates in North America. Its chief business for existence is to make a good thing out of the biological and mineral wealth of that area for the blessed minority who own and control the System.

In case the reader does not readily recognize what is meant by a Price System, it might be defined thus: A Price System is any type of social system, whatsoever, that brings about its distribution of goods and services by any system of trade and commerce based upon the valuation of commodities and the use of money as a medium of exchange. It doesn't make any difference whether that type of social system is individually owned and controlled by a small minority of the people or by the State itself. As long as its rules of operation are to determine the value of commodities by their scarcity and to buy and sell (exchange) them by the use of money, it's a Price System. The only difference between a collectively owned and an individually owned Price System is in who gets what.

Price Ends in Futility

No Price System can ever bring

about a widespread, or abundant, distribution of goods and services. This is because the act of distribution is incidental to the process of exchange. The System is organized to buy and sell for a profit, not to distribute. Sometimes, as during wartime and during artificial postwar periods, there are slightly more goods and services distributed than usual. This type of temporary prosperity is purely a by-product of the mass killing, destruction and tremendous waste characteristic of war.

This is the type of prosperity period North America is in now. Even now, though, more and more married women are forced into the labor market to maintain their homes. Their real standard of living declines. They are forced to carry a double burden of work and keeping a home. They are discriminated against right and left in the labor market. Surely, the ancient and lousy Price System bears down much harder on women than it does on men. Women have a big bill against the Price System.

For this reason, if for nothing else, women will be interested to know that there is a way out for them as a group. It cannot be found under the Price System, however. More philosophers and well-intentioned humanitarians than there are hairs on a woman's head have tried to find the solution for women's problems in the past. The reason they all failed is because it can't be done under the Price System.

Toward Technocracy

However, there is a way out. It lies along the pathway of Science and Technology. The solution lies in a social system based upon scientific principles and operated by technological methods; on a non-Price basis, for the General Welfare of all. The primary concern of that kind of a social system would be DISTRIBU-

TION. It would be organized to distribute goods and services, not to buy and sell them.

With this principle as the starting point, it is not hard to visualize a non-riceP System. Already North America has the capacity to produce and distribute an Abundance. We have the installed technology, the resources, the skilled personnel, the transportation facilities, and everything necessary. The engineering methods of operation are known. In fact, they are being used now in production.

All that remains is to apply our collective heritage to the problem of **distribution**. The results will be amazing. They will be rapid, and they will be lasting. It is perfectly practical right now to set up a much higher civilization in North America. We have all the ingredients and also the recipe.

By recipe, we mean the Design or Blueprint of a non-Price System. **Technocracy Inc.** has worked out a master design for a new social system. The ancient Price System is rapidly passing away. It cannot solve social problems. In fact, its continued existence begets ever more serious social problems. When it finally goes into

the dustbin of history, it will be necessary to be ready with a better social design. The alternative to preparation is annihilation, in the chaos of social collapse for a majority of the population.

In the face of these facts, all women owe it to themselves and their families to join Technocracy. Once inside, they can become part of a Study Class. Here they will be taught to analyze the facts of social operations under the Price System. They will become familiar with Technocracy's design for a Technate of North America. In short, they will become a part of the growing number of North Americans who know exactly what is the matter in America today, and what to do about it.

A non-Price System that can guarantee and provide Abundance, Security, and Equal Opportunity for all people, both men and women, is just around the corner. All we have to do to get it is to know which way to go. Technocracy can furnish correct directions. Technocracy is non-political, non-sectarian, and non-profit. It does not conflict with anything in the Price System. It is the design of a new social system.

Join Technocracy and be convinced!

Candidate For Bankruptcy

'"Recovery" is a very pretty word. Used in the sense in which proponents of the ECA have applied it, it means that we have subsidized the rest of the world because we haven't known what else to do, and that we propose to continue on that course until we think of something else or Congress stops voting the funds. An even more cruel way to put it is that we are promoting world inflation and heading towards another 1929 crash to conceal intellectual bankruptcy as long as possible.' —Extract from the editorial 'How's Business' in Barron's Weekly, June 28, 1948.

'We are piling up a new abnormal surplus and as soon as we stop furnishing tremendous credits to Europe we will have another collapse of our economy. Instead of a depression of the scope of 1929 and thereafter, we will have one so tremendous that it could possibly plunge the world into one of its darkest periods. Communism could flood over the world at that time.' Albert S. Goss, Master of the National Grange addressing a group of insurance men at Los Angeles. (As quoted by the Aberdeen Daily World, April 8, 1948)

Technology Marches On

Coming of Age

By Research Division, 8741-1

Unit Cost Cutter

A war-born technique is beginning to have a wide impact in cutting production costs. It is the use of cemented carbide dies in place of steel dies.

The advantages of carbide dies over those of steel are principally in the ability to stamp out hard to cut metals, such as high silicon steel, and the much longer runs possible without resharpening.

Up until recently, carbide dies were made only in small, simple shapes, which were fastened to cheaper metals by brazing, bolting, or clamping. Technology has now accumulated the know-how with better molding methods and new press equipment to turn out carbide dies in large and complex shapes.

Carbide dies cost over four times as much as steel dies. Nevertheless, they are a superior unit cost cutter, because die cost can be spread over more pieces.

Business Week for March 13, 1948, in telling this story, relates the experience of one plant thus:

One user, for example, spent \$7,221 for a cemented carbide die. His steel dies for the same purpose formerly cost only \$2,500. But production from the steel die is but a sixth of that projected for the carbide tool on the basis of wear until now . . . The carbide punch in this installation has improved efficiency 85% over the showing with a steel punch. That is, the idle time of the press has been reduced 85%. One big time saver: The carbide die is resharpened only one-twelfth as often as the steel tool.

In another replacement of steel by carbide, a maker of laminated steel pieces is now eliminating two of six presses formerly used on the job be-

cause of the saving in down time. This cuts payroll costs, equipment requirements and inspection.

Any Fish Today?

The process of getting fish ready for market is becoming a machine operation. Automatic filleting machines have been in use for some time and are becoming more widespread. Now comes a machine that automatically skins the fillets and then cuts them into two thin slices.

The machine runs something like this. The boned fish move along between two belts. The upper belt presses firmly against the fillets. A power-driven band knife fixed just above the lower belt slices off the skin. To slice the fillets the knife is raised slightly. Skins pass off into a chute.

Business Week, for May 15, 1948, in describing the machine, states:

In test runs 2-million lb. of fillet were processed in the skinner. Speeds averaged between 3,000 lb. and 4,000 lb. per hr. That means **ONE MACHINE CAN HANDLE THE OUTPUT OF ABOUT 25 MEN.** (Caps ours)

Exit the Pretzel Artist

In the Seventh Century (so the story goes), a German monk baked the first pretzel, called 'pretiola.' He gave them to children as a reward for saying their prayers well.

In 1947, in the good old U. S. A., over 100,000,000 pounds of pretzels were consumed. This is not a tribute to the number of prayers that U. S. citizens said last year. The fact is that most of these pretzels were consumed in places where prayers are few and far between. It's a story about technology.

It's not that machines are new in the pretzel industry. They've had machines for years. But pretzel bending is an art. So, naturally, it took technology a little while to master that end of it. After all, the German pretzel artists have had over 1,200 years to consolidate their skill. However, since it is a truism that any repetitive motion can be done better by a machine, it looks like the new units spell curtains for the pretzel benders.

The large baking companies have, for years, stamped out a pretzel-like cracker by a die process. These are not real pretzels. Phooey! A real pretzel must be rolled out in thin strips, then twisted, bent, flipped, and fastened together in the traditional shape by human hands and/or technology.

In contrast to the large baking companies, the independent pretzel firms who make 75 percent of all the pretzels, real and imitation, go in for machinery that displaces the pretzel artists' skill.

New units 'will automatically roll, tie and fasten as many as 125 doughy twists a minute. That's three times faster than a quick-fingered pretzel artist can bend 'em and more than twice as fast as the slow-moving machines in use by a few firms.'

The older machines used seven operators. The new units operate with two men. Over \$1,500,000 is being expended by the industry for new equipment and up-to-date ovens in this year.

The **Wall Street Journal**, for March 6, 1948, from whom the above quote was taken, describes the new equipment thus:

They pick up the dough . . . roll it into strips, give it a twist like a half-hitch knot, flip it, fasten the ends down and shape it into one of five or six standard sizes . . . Dropped automati-

cally on a moving belt, the doughy pretzels are carried through a hot "bath" of 2.5% caustic soda and 97.5% water to seal the dough and give it a cherry brown crust when its baked. The biscuits then pass under a big "salt shaker" and through the ovens.

If that old German monk could only see us now! For 1,200 years there was no change in the art and industry of pretzel bending. Then came Technology! Exit the pretzel artist.

Comes the Revolution

One wouldn't think that the depreciation and amortization policy of the U. S. Treasury Department had much to do with the advance of technology. However, it does. It also has a direct effect in lengthening the period of obsolescence of machine tools and thus discourages their early replacement with more efficient mechanisms. It works like this.

The law says that 'machine tools and other capital equipment must be depreciated over a period of about 20 years for tax credit purposes.' (**Wall Street Journal**, March 4, 1948.)

Thus, in computing corporation income tax, a company can take a credit of only one-twentieth of the tools' cost each year, as a depreciation allowance.

A tool may become obsolete in five to eight years. The company concerned might like to buy a new machine, but since it hasn't amortized the full cost of the old machine through tax credits, it continues to use the old equipment.

If the full cost of a piece of equipment could be returned in five to eight years, the older equipment would be replaced sooner.

This is an example of how the political hocus-pocus of the Price System hinders the advance of technology. Naturally, the more new tech-

nological equipment that is installed, the more difficult it becomes for the Price System to operate.

New machinery and equipment must necessarily be more productive than the equipment that it replaces. Otherwise, it has no reason for being designed. To be more productive means to produce more while displacing more skill, man-hours, etc.

If North America is to advance into a culture of abundance, security and equal opportunity, it needs the best technology. The second best isn't good enough.

The Price System will be invalidated and unable to operate any longer

when our technology reaches a stage that decrees a new social system.

We're not far from that point now. So, anything that will hasten the process is welcome. The machine tool men and technologists are the real down-to-earth revolutionaries who are destroying the Price System. They can't help it, and they would be the first to deny it. But, facts are facts. Anyway, they couldn't stop if they wanted to. So, let's give them a salute! They're doing a good job on the Price System.

Great Lakes Technocrat is all for more and better technology. And—let's hurry up about it.

More 'Firsts' For Technology

The Ford Motor Company has adopted assembly line production methods in the manufacture of radiators. In reporting this development the *Chicago Journal of Commerce* for March 8, 1948, states: 'The mechanized process is believed to be the automotive industry's first fully conveyORIZED line for volume production of radiators.... Modern material handling methods on the radiator line have eliminated most of the manual handling of sub-assemblies at Ford.... A total of 15 different assembly operations which follow the soldering of top and bottom headers in the automatic ovens were formerly done by hand on benches. All operations are now accomplished on an assembly conveyor.'

Metal presses can stamp out astronomical quantities of goods. One worker with an E. W. Bliss gang press which works a number of items at once, can make over a million pop bottle caps between dawn and dusk. Piled on top of one another, they'd make a wobbly stack four miles high. Each cap must be stamped out as a round piece of metal; drawn down in the middle to form a cap; and crimped around the edge to fit the neck

of the bottle tightly.—'Wall Street Journal,' January 12, 1948.

Elois Jenssen, a dress designer, claims to have a process that will permit paper to be draped better than any other material. She inherited it from her father, G. D. Jenssen, inventor of a reclaiming process for paper mills. Miss Jenssen is getting the process patented. She claims that with her process tailored suits, dresses, etc., can be stamped out from a mould. Clothing will become so cheap that everybody can have a wardrobe like a movie star. Every time a suit gets dirty you just throw it away and buy another for 50c or so. The *Ravenna, Ohio, Evening Record* in reporting this threat to good old 'free enterprise' states: 'You can buy three suits for a buck, a winter coat for a five-spot, and 40 evening gowns for what one costs you right now.' If you think the Price System will let that one get by, well, think again.

Warner and Swasey has developed a new loom that weaves cloth at more than two and a half times the conventional speed.

Each In His Own Tongue

By Publications Division, 8741-1

Voice Of The Price System

A Lie by Any Other Name

Our prime concern must be the happiness, the liberties, and the safety of our own people. It is not easy for us to realize, however, that the price of bread on N. Green Bay Ave. and of lumber on W. Vliet St. is affected by the actions of the Politburo.

Because of those actions, because of Soviet expansion, we have extracted billions from our economy for use abroad and at home to prevent a third world war. This spending directly affects the prices of our necessities and the rate of the building of our homes.

U. S. Congressman, Charles J. Kersten (Rep. Wis.) in an article in the *Milwaukee Sentinel* (announcing his candidacy for re-election), as quoted by the *Ravenswood - Lincolnite*, June 23, 1948.

Equality to Chisel

Our educational system, our political institutions and our social ideals form a closely interwoven pattern. Equality of opportunity could be realized only in a political democracy; it would have meaning only in a competitive society in which private ownership and the profit motive were accepted as basic principles.

Dr. James B. Conant, president of Harvard University, in the foreword to a pamphlet entitled *Education for Business Responsibility*, put out by the Graduate School of Business Administration of Harvard University. (As quoted by Russel Porter in his column in the *New York Times*, September 7, 1947.)

Interference with Free Enterprise

Of all the times to get arrested . . . Just at the start of the season. I'll probably get six months and then the season will be over. You can't make a cent all winter. People are so bundled up with coats you can't get to them.

Complaint of Samuel Hemphill, veteran pickpocket, upon the occasion of his eighteenth arrest by the police. *New York Times*, May 2, 1948.

Draw Up Your Belts, Boys

I am a banker and not an economist, but I'll tell you what I am doing. I have stopped eating bacon for breakfast. I think the price has gone too high. And until it comes down to a more reasonable level, I am going to do without it and eat something else for breakfast.

My reasoning is this. I am a firm believer in the principle that when prices get too high, that people should exercise restraint in their spending and bring them back into line. If everyone did this today, a powerful influence could be exerted on prices. I believe that the boom would correct itself without a sharp adjustment.

Bertie C. Gardner, president of the Bank of Montreal, in an interview with the press on the problems of inflation. (As quoted by the *Toronto Daily Star*, February 12, 1948.)

Hyphenated Jingoism

There is no peace in the world today because Russia doesn't want it . . . It isn't enough to stop the onward march of Communism. The paramount task of the United States should be to devise means of forcing the Russians to retreat to their prewar bound-

daries and stay there, even if it means using the threat of the atomic bomb to make them do it.

Charles Rozmarek, president of the Polish National Alliance, in a speech to 50,000 Polish-Americans (notice the hyphen) in Humboldt Park, Chicago, on Polish Constitution Day. (As quoted by the *Chicago Sun-Times*, June 7 1948.)

'Where Your Treasure Is—'

We must think in terms of blood as well as money. We must have military support and protection of our economic investments whenever forces threaten everything we hold dear.

Lieutenant General Albert C. Wedemeyer, testifying before a Congressional Committee in behalf of increased aid to China. (As quoted by Kenesaw Mountain Landis II, in his column in the *Chicago Sun-Times*, March 11, 1948.)

Yes, This Is 1948 A. D.

If the Constitution is distributed among the public schools, you are throwing

an invitation into the teeth of every Negro to memorize it and then go qualify to vote because not a single, solitary circuit court clerk could rule that the Negro could not understand the Constitution.

Mississippi State Senator W. B. Lucas, in a talk in the State Legislature arguing against a bill to print the Constitution for distribution to school children. (As quoted by the *U. S. News and World Report*, March 26, 1948.)

'There Are None So Blind—'

Separating institutions is correct, but keeping religion out of society, government and state is democratic tragedy.

The separation of church and state is pagan.

Dr. Oscar F. Blackwelder, in a criticism of the U. S. Supreme Court's recent ruling against released time for religious training in public schools, in the Lutheran, official organ of the United Lutheran Church. (As quoted by the *Chicago Sun-Times*, March 27, 1948.)

Voice Of Technology

What, No Free Enterprise?

To an extent not generally appreciated, U. S. industrial strength is based on an accident of nature: the unique geographical combination of Minnesota and Michigan ore, Appalachian coking coal and the Great Lakes highway. On this triple gift of nature rests our towering steel industry. To it we owe three generations of the cheapest and most abundant iron and steel in the world—and in the final analysis, our standard of living.

Leonard Engel, free-lance writer, in an article about smelting technology in the *Scientific American*, May, 1948.

Mining the Soil

The American farmer has been permitted to control and direct the use of his own land with almost no restriction.

The right to own land, however, should no longer imply the right to abuse it, for the long-time, public interest in land is greater than the short-time interest of a private owner. (Light-face theirs)

Extract from a report of the Senate Committee on Agriculture entitled *The Long-Range Agricultural Policy and Program*. (As quoted by *Peoples Lobby Bulletin*, March, 1948.)

The South American Way

It may be said that at present in Argentina they are making an attempt to build up the state internally on the nationalist viewpoints of the fascist trend, whereas at the same time in foreign policy . . . they are forced to protest constantly adherence to the democratic principle.

Extract from a confidential memorandum, dated August 30, 1944, by General Friedrich Wolf, Nazi military attache to the Argentine government, to the German High Command. (As quoted by *United Nations World*, June 1948.)

How About the Price System?

No society can make a perpetual constitution, or even a perpetual law. The earth belongs always to the living generation. They may manage it, then, and what proceeds from it, as they please, during their usufruct . . . The Creator has made the earth for the living, not the dead.

Thomas Jefferson, third President of the U. S. (As quoted by the *Chicago Sun-Times*, June 20, 1948.)

My Goodness, Professor!

'Today's \$10,000 house is a cheap little box. It is poorly adapted to the living functions of any modern American family, inflexible in use and unadapted to expansion. Those who can afford it don't want it, and those who would have it can't afford it.

Professor William H. Schieck, co-ordinator of the Small Homes Council of the University of Illinois, in a talk to the American Ceramic Society at the Palmer House recently. (As quoted by the *Chicago Sun-Times*, April 27, 1948.)

The Professor Predicts

The great crisis lies in the future. Some time in 1948, or 1949 at the latest, that crisis will come. It will

come with the convergence, or arrival in series, of three events which are now as inevitable as human events can be. The first is the bankruptcy of the Truman Doctrine. The second is the failure of the Marshall Plan. The third is the coming of the American Depression.

Dr. Frederick L. Schuman, outstanding scholar of current affairs, in a talk before the Chicago Council of Foreign Relations, October 3, 1947. (As quoted by the *Protestant*, March-April, 1948).

Confession of Futility

If we should say that we will not supply the necessary help without which there can be no European recovery within the foreseeable future, it is almost certain that every country in Continental Europe would lose the battle to maintain its integrity and independence.

The Iron Curtain would then move westward at least to the English Channel.

Consider what this would mean to us in economic terms alone. A black-out of the European market would compel radical readjustments in our entire economic structure — changes which could hardly be made under our democratic free enterprise system.

William L. Clayton, former Assistant Secretary of State and head of the U. S. delegation to the International Trade Organization, in an article in the *Chicago Journal of Commerce*, February 17, 1948.

Ecclesiastical Infiltration

The demand for military training and even a temporary draft are also due partly to the fact that Catholics (Roman), as adherents of an alien Government, the Vatican, have since the Spanish revolution largely affected our foreign policy, through the authoritarianism which enables them to exercise direction of their members, as non - state - churches do not, and

through placing their agents in vital policy making positions in the Government; while the Vatican, which was a great factor in entrenching Franco, Mussolini and Hitler, is mortal enemy of the Russian economic system.

In addition to the large number of Catholics (Roman) in important positions in the State Department and the diplomatic service, we may mention

Admiral Wm. E. Leahy, Presidential Adviser, and General J. L. Collins, Deputy Chief of Staff.

Extract from a brief filed by the Executive Secretary of the People's Lobby with the Senate Committee on the Armed Services, early in March, 1948. (As quoted by the *People's Lobby Bulletin*, April 1948.)

Waste Not, Profit Not

During the late war the U. S. Army, alone, used enough cotton and wool to make 650,000,000 dresses and 160,000,000 suits of clothes. Enough steel was used by the U. S. in the war to make 230,000,000 automobiles. 'The money spent on tanks alone by the U. S. Army would have paid for 20,000,000 electric refrigerators, 85,000,000 bathtubs, or 140 skyscrapers the size of the Empire State Building in New York City.' Data and quote from Blueprints For The Future, monthly bulletin of the National Tool Company, Cleveland, Ohio, November, 1947.

'It has been estimated that 120,000,000 to 140,000,000 tons of steel, in the form of manufactured equipment of all kinds as well as unfabricated steel, were sent out of the United States during the war.'—Steel Facts, February, 1948.

The board of transportation of New York City has estimated that about 750 tons of iron are lost every year in the New York subways. It consists of iron dust ground off the brake shoes on subway cars. The figure of 750 tons was arrived at by checking the total loss of weight in a year for all subway-car brake shoes. (Chicago Tribune, March 14, 1948).

'About 20,000 tons of steel are used every year in making license plates for automobiles and trucks.' ('Steel Facts,' April, 1948.)

The bruising of animals in transit, by rail and in trucks caused a loss of about 50,000,000 pound of meat in 1947. 'This was meat that had to be trimmed from slaughtered carcasses and discarded, pure waste.'—USDA Clip Sheet, June 13, 1948.

The first full railroad tank car of shale oil was recently shipped from the Bureau of Mine's new oil shale plant at Rifle, Colorado. It was sent to the laboratory of a private oil company at Riverside, Ill. for preliminary tests.—Release of the Bureau of Mines, June 4, 1948.

Weevils and moths that attacked stored wheat, corn, rice, oats, barley, rye, and sorghums were responsible for a loss of 300,000,000 bushels of these grains in 1947.—U.S.D.A. release July 1, 1948.

Rats eat or spoil about 200,000,000 bushels of grain in the U. S. each year.

In American industry one worker was injured every 16 seconds, in 1947.

The Department of Commerce publishes a 25 page booklet listing more than 260 special days, weeks, and months thought up by private enterprisers to pep up business. Included are such epoch making events as Ping Pong Week, Donut Week, Knitting Week, Better Floors Week, Turkey Week, Tire Safety Week, Ice Tea Week, and Honey for Breakfast Week. The latter, at least, sounds interesting.

In The Question Box

By Speakers Division, 8741-1

Editor, Great Lakes Technocrat:

I am an old timer and I have seen the remarkable growth of technology during the last forty years. In the meanwhile the old money racket has continued. What I would like to know is this: Can bankers cook up any scheme to retain financial control in the face of technological displacement?

Banks and bankers are a part of the Price System. So, naturally, they will 'cook up' every possible and many impossible schemes to retain their preferential position in the system. So will manufacturers, jobbers, wholesalers, retailers, salesmen, politicians, etc. In fact, you can go down the line until you've called off every trade and occupation in the whole economy and the statement holds true.

The Price System is not just bankers, or America's sixty families, or the 'vested interests,' or the triple oligarchy of politics, business and clericalism. The Price System is seventy generations of social tradition. It is the totality of the civilization under which we live. It's you and me, and everybody else, and everything we do individually and collectively.

It is possible to have a Price System without bankers exercising financial control as we know it in the U. S. It is being done in the Soviet Union, which is also a Price System. It's not that we're defending bankers. It is that we are trying to project a clearer conception of the question.

Technological displacement works on many fronts. Technology displaces skill, man-hours of labor, social concepts arising out of the philosophy of toil, and the validity of social institutions that grew up in a pre-technological age. The displacement ef-

fect of technology is not only continuing; it is increasing. It is only a matter of time until it displaces the entire Price System with a non-Price System civilization.

So, don't worry about the bankers. If you were a banker, you would have to behave precisely as all other bankers, or you would soon be a non-banker. It is not individuals or groups particularly that make the Price System a low-grade type of civilization. It's the nature of the System and its Rules of Operation. The best way to function for a real civilization is to get into Technocracy, get on the beam, and stay on it.

If you are already a member, just intensify your efforts. Some day there will be a Technate on this Continent. Then we won't have any bankers or beggars, business men or big shots, politicians or paupers, money or misery, crime or charity, prices or poverty. We will have Abundance, Security and Equal Opportunity for all citizens. Even the bankers will be better off by not having to be bankers.

Do you think the Republican Party will improve conditions if elected to power?

You bet your life they will improve conditions for those who help them get into power. What do you think political parties are for, to improve conditions for the mass of the people? Guess again. They exist solely for the purpose of getting all four feet including snout into the public trough.

It might just barely be possible that if there were more than one political party in the U. S. there might be a slight choice between them. Such is not the case, however. The Amer-

ican Price System has been governed by a monolithic party system ever since the Civil War. To be sure, we say and even think that there is some fundamental difference between the Democratic and Republican branches of this system, but there is not.

The only real difference is that which exists between Tweedledum and Tweedledee. Each branch is an operating arm of the same system. This is a more clever method of deluding the people than is used in other countries. The branch that happens to be in power are the 'ins.' The branch that is out are the 'outs.' When the people get sick of the 'ins' they are given a change by being permitted to kick the 'ins' out and install the 'outs' in. Then everybody is happy for a while.

This has been going on ever since the Civil War. In fact, both the Democratic and Republican branches of the American Price System political arm have each had 24 years of power since 1900. Have you noticed, or read about, any basic improvement in the General Welfare since 1900? Do you think there is as much opportunity now as in 1900? Can you plan your personal life ahead with confidence for as long a period now as could have been done in 1900?

Go down the entire list of secondary social problems, such as crime, juvenile delinquency, divorce, family life, racial prejudice, religious intolerances, health, housing, education, old age security, etc. Can you honestly say that the conditions of these problems are not much worse now than in 1900?

Then take the primary social problem of the production and distribution of Abundance, Security, and Equal Opportunity to all citizens. When that problem is solved, all the secondary problems will wither away.

Has the political arm of the Price System solved that primary problem? Of course not. That is not their job. 'Well, then,' you say, 'What the hell is politics for anyway?' The answer is that the function of politics is to serve and preserve the status quo.

That being the case, as the record shows, how can we ever solve our social problems? The first step is to understand their nature. A scientific analysis reveals that they are all technical in character. Consequently, the political method of approaching them is futile. Further analysis reveals that social problems cannot be solved within the framework of the Price System. Consequently, we must postulate our solutions on a non-Price System basis.

This gives us the two major conclusions that social problems can be solved only by non-political, non-Price methods. From here on, you go straight into the Body of Thought called **Technocracy**. To carry on from this point, the best thing to do is join Technocracy. This Organization has the correct answers to nearly all of North America's social problems. Technocracy conducts Study Classes. You can join one, and find the answers for yourself.

The main thing you will learn is how to solve our primary social problem. That is the key to the whole works. Once get that fixed in your mind, and the whole confused Price System mess clears up. After that, you easily learn what to do about it. But, that's another story. Be seeing you!

CORRECTION: In the table of references on page 46 of our last issue item No. 25 looks like it's marked with a P. This should be a B.

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Technocracy,

155 East 44th St., New York 17, N. Y. 15 cents,
no subscriptions.

The Technocrat,

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Northwest Technocrat,

1024 East Pike St., Seattle 22, Wash., 20 cents,
\$2.00 for 12 issues.

Technocratic America,

329 Harvey Drive, Fontana, Calif., 5 cents, 50
cents for 12 issues.

Technocracy Digest,

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25 cents, \$2.50 for 2 issues.

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NORTH AMERICA'S ONLY SOCIAL DYNAMIC

WHAT?

★ Technocracy is the only North American social movement with a North American program which has become widespread on this continent. It has no affiliation with any other organization, group or association either in North America or elsewhere.

★ The basic unit of Technocracy is the chartered Section consisting of a minimum of 25 members and running up to several hundred.

★ It is not a commercial organization or a political party; it has no financial subsidy or endowment and has no debts. Technocracy is supported by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commission or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$6.00 which are paid by the member to his local Section.

★ Members wear the chromium and vermilion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHERE?

★ There are units and members of Technocracy in almost every State in the U. S. and in all Provinces in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces.

★ Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHEN?

★ Technocracy originated in the winter of 1918-1919 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934, Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundations of the present nation-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous discovery that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHO?

★ Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this continent. Membership is open only to North American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective political office or actice office in any political party.)

★ Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—as long as you are a patriotic North American—you are welcome to Technocracy.

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*World Output Of Electricity, 1947**

By Utilities for Public Use

By Research Editor, Great Lakes Technocrat

a) North American Technate Area.....	306,804,997,000 Kw-Hrs.
b) Rest of the World	305,299,580,000 Kw-Hrs.
World Total	612,104,577,000 Kw-Hrs.
Technate Percent of World Total.....	50.+

Note: a) includes 17 countries and territories

b) includes 55 countries and territories

*Covers the year 1947 for the larger countries of the world—accounting for approximately 80 percent of the world's total population. For the remaining countries and territories, the latest reported data is used, in most cases in the 1940's.

A decade previously, in 1937, the Technate Area produced and consumed 36 percent of the world's total utility electricity—as shown in Table VIII, page 277, of the 'Technocracy Study Course.'

SOURCES: Technate Area; Secretary of National Economy, Mexico, as quoted in "Export Trade and Shipper," May 17, 1948; "League of Nations Yearbooks," prewar; Letter from Direccion General de Estadistica Venezuela, to GLT, dated February 24, 1948; U. S. Tariff Commission; "Commercial Pan American," 1948 edition; U. S. Department of Commerce reports; "Electrical Engineering," January 1943; "Monthly Bulletin of Statistics," United Nations, February and March 1948.

SOURCES: Rest of World; U. S. Dept. of Commerce; Letter to GLT from Spanish Embassy, Washington, dated January 21, 1948; CEEC (Marshall Plan) electric power report; Pan American Yearbook 1941; "Electrical Engineering," January 1943; "League of Nations Yearbook," prewar; "Monthly Bulletin of Statistics," United Nations, February and March, 1948.

Great Lakes

TECHNOCRAT

**What Is the Matter
With Technocracy?**

Technocracy in Court

The Supreme Court Speaks

**Men May Come
and
Men May Go**

MARCH
APRIL
1949

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GREAT LAKES TECHNOCRAT

MARCH - APRIL, 1949

VOL. V. NO. 1

WHOLE NO. 94

Illustrating the Futility of Price System Methods of Operation.

Interpreting the Trend of Events from the Social Aspects of Science.

Notice To Subscribers and Readers

Due to organizational, financial, and editorial difficulties beyond our control Great Lakes Technocrat was forced to skip its November - December, 1948 and January - February, 1949 issues.

It is hoped that these difficulties will be overcome shortly so we can get back into regular production. If Great Lakes Technocrat is unable to do this every subscriber will have his subscription transferred to another magazine and get full credit for all issues he has coming.

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Assistant Editor Anne Laurie Treasurer W. T. Slack

Managing Editor R. B. Langan Circulation Alice Anderson

What Is The Matter With Technocracy?

By the Chicago Conference for the
Expansion of Technocracy

Sixteen years ago, Technocracy Inc. was launched with the greatest ballyhoo any organization ever received, all supplied free by the Price System press. Today it is dying from senile sclerosis in its top administration. Sixteen years ago a scientific, social movement might have been born on this Continent. The opportunity was muffed. The top administration turned out to be just another Price System chisel.

Today a large percent of the Membership of Technocracy is in revolt in an effort to revitalize the Organization. The following is an outline of the history of Technocracy, and a recital of the events leading up to the present struggle and litigation in the Supreme Court of New York State between its bracket of top functional members and Technocracy Inc. the organization.

Beginning of Technocracy Inc.

The Certificate of Incorporation of Technocracy Inc. was filed on April 8, 1933. It states that the purpose is to 'promote the exchange of ideas among its members, research and study of social and economic conditions. The said objects are to be conducted without pecuniary profit.'

The subscribers to the Certificate of Incorporation were Howard Scott, M. King Hubbert, E. Lowell Taylor, William J. McCloskey, and John V. Dittmore. They were designated as Directors "until the first annual meeting." That was just about 16 years ago; and the first annual meeting is yet to be called. That omission, plus a few more, are the reasons for the present litigation. In the Fall of 1932, when the idea of Technocracy first broke into the press, there was no organization. During the ensuing months of nationwide publicity, a number of Technocratic groups sprang up. Members were recruited by the hundreds of thousands. Technocratic papers and magazines sprang up by the dozens. Meetings were held all over the nation. Millions of people were made

familiar with the idea of Technocracy.

Technocracy Inc. also benefited from all the free publicity. However, at that time and for a year or more later Technocracy Inc. was confined to a small group in New York City. In 1934, when the country began climbing out of the depths of the depression, all the other Technocracy groups began to disappear one by one. Soon, only Technocracy Inc. remained. Foreseeing the possibility of working up a strong organization from the remnants of the spontaneous groups now beginning to disappear, Technocracy Inc. began an organizational campaign. Transcontinental tours were staged. Local Sections were set up in both U. S. and Canada. Magazines authorized by the head office in New York began to be published. Hundreds of members at that time gave freely of their time, money and energy to help Technocracy Inc. grow.

From 1934 to 1939 Technocracy Inc. enjoyed a steady, if moderate, growth. No figures are available on the largest Membership reached because of the policy of extreme secrecy maintained

at the head office. However, it is not likely that the number of members ever exceeded 20,000.

Technocracy and the War

In 1939, when World War II broke out, the growth curve of Technocracy Inc. levelled off. "Good times" returned to the country and the capitalizing-on-calamity psychology which Technocracy Inc. used in its initial organizational campaign began to be less effective.

Upon Canada's entry into the European War against fascism in 1939, some of the Canadian Sections requested Continental Headquarters (CHQ) to advise them on policy changes necessary to fit Technocracy's program to the national war effort in Canada. CHQ's reply was: "Carry on as usual." In other words, with their nation at war, CHQ instructed Canadian Sections to continue with the outworn capitalizing-on-calamity program. This was an egregious error and constitutes a glaring example of CHQ's misdirection of Technocracy.

The answer came on June 21, 1940, when Technocracy was banned in Canada by an order-in-council, issued under Defense of Canada Regulations by the then Minister of Justice, the late Ernest Lapointe. On July 16, 1940, Prime Minister Mackenzie King stated in the House of Commons that Technocracy Inc. was trying to overthrow the Government of Canada by force.

In July, 1940, Technocracy Inc. first published its wartime program of Total Conscription with National Service from All and Profits to None. This was a design worked out by Members of Technocracy to prepare this Continent for the war against European and Asiatic Fascism, then seen to be inevitable for the U.S. as well as Canada.

In Canada, after the ban was in force, the former members of Technocracy Inc. formed a "Canadians

for Victory Committee." This Committee went ahead without interference, advocating Total Conscription for Canada. If this Program had been put into effect in Canada prior to the ban (as ordinary sense dictated), the chances are that there would never have been any ban.

However, the ban was lifted in the middle of the war by a personal announcement in the Canadian Parliament by Prime Minister Mackenzie King on October 15, 1943. This event, in the middle of the war, proved that Technocracy Inc. was guiltless of the false charge placed against it.

During the war Technocracy carried on its campaign for Total Conscription. Its social program was temporarily shelved. The organization held its own while the war lasted. After the war came the inordinately "prosperous" postwar period. Technocracy had no postwar program. All it had was the same old line it had put on during the thirties. Not only that but the top administration of the organization had allowed it to stand still. All its charts and data had fallen behind the times. The end of World War II found Technocracy losing membership rapidly.

Technocracy and the Postwar Period

The postwar period, with its continuing "prosperity," struck hard at Technocracy. The top administration could not adapt its old prophecies-of-doom and promises-of-salvation program to the fact that the Price System was going along in high gear. Neither was it able to devise a program in tune with the Atomic Age. Sections all over the continent began to fold up. The circulation of Technocracy magazines dropped off by 50 percent. Bickering, quarreling and personality conflicts developed among the Members. By August, 1948, the organization had only about 8700 members left. In the previous 12

months over 700 members had dropped out.

Top functional members throughout North America were greatly worried about this decline. Many of them wrote CHQ asking that something be done. Proposal after proposal for stimulating activity was sent in from the Field to CHQ. Almost invariably CHQ either delayed answering letters until it was too late, didn't answer them at all, or turned down the proposals. What activity there was in the postwar period arose in the Field, and was carried out in spite of the passive resistance or positive opposition of CHQ. It actually looked as if CHQ were trying to prevent the organization from advancing and expanding.

Authorized Speakers on Tour reported the same condition everywhere. There was a deadly inertia creeping through the organization. Near the end of 1944, the monthly issuance of General Mailings to members ceased. These were information releases on pertinent advances in technology, current events and reports of organizational activities. Between the Fall of 1945 and the Spring of 1947 only three General Mailings were issued. These dealt mainly with international affairs. Since then, no General Mailings have been issued.

Inquest on Technocracy

In the Winter of 1947, three members got together in St. Thomas, Ont., Canada, and decided to investigate Technocracy. One was an Authorized Speaker from Chicago and the other two were Members of the St. Thomas Section. After discussion, it was decided to write the Secretary of State of New York for a copy of the Certificate of Incorporation of Technocracy Inc. In due time this was obtained, but cast little light on the problem of what was the matter with the organization. The members in Chicago then decided to look up the law. One

of them began to frequent Northwestern University Law Library. The Membership Corporation Law of New York State and its General Corporation Laws were studied. Startling discoveries were made.

In order to save time, a copy of the M.C.L. of N.Y. was purchased to study at home. This study revealed many things. Among these were the fact that CHQ had been operating Technocracy Inc. for over 15 years in violation of the Membership Corporation Law, by (a) failing to call Annual Meetings; (b) refusing to render annual financial reports to the membership; (c) refusing to reveal the names of the Continental Directors of the organization; (d) rigging up a set of By-Laws, some parts of which were definitely against the law; (e) appointing and removing Continental Directors without the knowledge or approval of the Members; (f) dismissing members arbitrarily without any hearing or trial; (g) maintaining a policy of extreme secrecy regarding the activities of CHQ; and (h) setting up authoritarian methods of control which deprived Members of any participation in the control of their own organization. In short, the study revealed that CHQ had not been operating Technocracy Inc. as a true Membership Corporation since its inception.

These facts were totally unknown to the Membership. CHQ had always maintained a strict policy of extreme secrecy about all of its affairs. Sections were required to render reports to CHQ, but CHQ *never* gave any reports to Sections. All the Members had been so busy trying for years to build Technocracy that they never took time to inquire into the essential nature of their own organization. They never suspected that the expansion of Technocracy was being obstructed by its own top administration. CHQ took

pains to see that they never learned anything about the actual operations behind the scenes.

One-Man Control

CHQ had set itself up as the infallible source of all authority and power and was answerable to no one. During all this time, Howard Scott was the so-called Director-in-Chief of the Organization. This title is not mentioned in the Certificate of Incorporation nor in the By-Laws. How he got it, no one knows. When questioned on this point by the press, it has been his habit to say: "I got there first." One thing is certain; he never was elected to that position by the Members. He just took it, and got away with it for 15 years.

During this 15-year period, Howard Scott was the chief executive of the Organization. He sat in the nerve center and controlled all operations. His fiat was policy and law, and there was no appeal. If the Board of Directors ever met, the Members never knew about it, for neither its meetings nor its minutes were ever revealed. It is safe to conclude that the failure of Technocracy Inc. to hold more than 8700 Members in 15 years is due to the policy, or lack of it, of CHQ. The members in Technocracy have never had any rights at all. They were not allowed to meet and confer in annual meetings. They were not allowed to elect their Directors. They were never given an accounting of their funds.

The organization of Technocracy, as Howard Scott molded it, is unique. It provides absolutely no method for members to advocate changes or make complaints except by personal solicitation to Howard Scott, or to their own Section Director, who in turn is vested with arbitrary power to veto anything he doesn't like. The arbitrary set-up of Technocracy Inc. flows from the top down in direct contra-

diction to the law. This, then, was what was the matter with Technocracy Inc. It was suffering from a one-man dry rot in the top administration.

As this became more noticeable in the postwar era, the dissatisfaction among the Membership increased. Several proposals from the Field were made to correct the condition at CHQ. In each case, those who made the proposals were dismissed from the organization without hearing or trial. In the Winter of 1947, several members in the Los Angeles area advanced ideas for changes. Some were dismissed, and others resigned in disgust. In Dayton, Ohio, several members were also dismissed for the same reason. CHQ did not even bother to notify the general Membership of these dismissals. They seemed to proceed on the idea that if they kept each Section in an air-tight compartment of its own, and did not let it know what other Sections were doing, discontent could be stifled.

However, CHQ does not control the U.S. mail, the telephone lines, the telegraph wires, or the transportation system. Members managed to travel and see what other Sections were doing. Members in the East managed to visit CHQ frequently and learned more about its actual operations. Those on the West Coast had less opportunity to do this and consequently knew less. This led to a situation wherein the Eastern Sections became critical of CHQ's one-man policy of control while the Western Sections still accepted everything on faith from CHQ.

The Buffalo Conference

In early July 1948, five top ranking functional members, representing Toronto, Detroit, Chicago and New York City, got together in a conference at Buffalo, N.Y. The conference lasted one day, but a lot of ground was covered. The legal condition of Tech-

nocracy Inc. was reviewed. The policy of CHQ was analyzed. From this, the conclusion was drawn that the trouble with Technocracy Inc. was a lack of correct direction from the top. A rough plan of action was drawn up and it was decided to get more support and then hold a Final Conference at Chicago.

In the meantime, in early July, the Pacific Coast Sections were putting on a Motorcade from up and down the Coast, at San Francisco. It was called "Operation Golden Gate." The Operation was in charge of the Los Angeles Gray Fleet Control and Area Tour Headquarters. It was decided to hold a large public meeting at San Francisco in conjunction with the Motorcade. This proposal was vetoed by CHQ. It did not want any public meeting. The L.A. Tour Headquarters decided to by-pass CHQ. A Speaker from Detroit was chosen. This speaker, at his own expense, went to CHQ for a briefing on his talk. Seeing that the meeting it had vetoed was going to be held anyway, CHQ withdrew its objection and gave the visiting speaker a lukewarm welcome. While in New York, he talked to one member of the CHQ staff, who had served as Assistant Director of Organization for 7½ years. They spoke of the postwar decline of Technocracy Inc. This member of the CHQ staff and his assistant were the only members of the staff who really wanted Technocracy to expand.

It was suggested to the Speaker that he stop off in Chicago and see the members who had been laying the legal foundation for correcting the operating deficiencies in the organization. This was done, and there it was agreed to call on certain members on the Coast who were trying to Make Technocracy Move. While he was on his speaking tour of the Coast, another active member from Los Angeles

was sent by the Chicago office on a trip up the Coast to contact other members. Between the two of them, many contacts were made.

The Chicago Conference

Within 60 days after the Buffalo Conference, 75 top functional members had written to the Chicago Office, expressing their interest and determination to make Technocracy Move. Since there was no mechanism within the organization for members to confer, it had to be done that way. On September 11 and 12, 1948, a final conference was held in Chicago. Twenty-six Members from all over North America attended. The rough plan of the Buffalo Conference was torn to pieces and rebuilt into a definite Program for the Revitalization of Technocracy Inc. Copies will be sent upon request from this office.

A delegation of five Members of the Conference was chosen to take the Program to CHQ. It was proposed that Howard Scott be retained as Director-in-Chief under the Program. The Program was a series of specific recommendations, together with an objective, impersonal analysis of the state of the organization, and the conclusions as to why the Program should be adopted. It was signed by all the Chicago Conference participants.

The delegation had wired for an appointment for September 15, 1948. They went up to CHQ and sat with Howard Scott for several hours. He would not discuss the Program. He promised another interview for the next day at which the Program was to be discussed, point by point. The next day he refused to honor his promise. All in all, he would have nothing to do with the Program nor the delegates, despite the fact that all of them were Members with years of service in the organization and top functional records. The third day he dismissed the five delegates from the

organization by wires to their Sections while they were still in New York. He also dismissed the other 21 who had participated in the Chicago Conference. Since then, he has dismissed over a hundred and twenty additional members for advocating the Chicago Program.

All these dismissals were without hearing or trial. On Sept. 28, 1948, CHQ issued an unsigned, special release, the first since March 1947. It accused the Members of the Chicago Conference of Conspiracy, Treachery and Sabotage. The release consists of lies, smears, distortions, villifications, and slander, from the beginning to the end. Copies will be sent on request from this office. The CCP office in Chicago had been set up by the Conference of September 11 for the purpose of carrying on activities to promote the Program in the event that CHQ turned it down. That office has been busy on that job ever since. It has instituted two suits against CHQ in the Supreme Court of New York State. One is a Petition for a Visitation by the Supreme Court of Technocracy Inc., looking to the correction of abuses and violations of law. The other is for the reinstatement of all expelled Members.

Conclusion

Technocracy consists of two things; the Body of Thought; and the Organization.

The Body of Thought is a collection of ideas from the field of science and

technology. It is not the property of Technocracy the Organization; nor is it the property of any one man. Neither does it need any defense, for it speaks for itself.

The organization, however, is another thing. It is merely the vehicle for transmitting the Body of Thought to as many people as possible. There is nothing sacred about a vehicle. If it needs overhauling, it should be overhauled. Anyone who stands in the way of this is obstructing the transmission of the Body of Thought to the people of North America.

The Chicago Conference takes the position that the present administration at CHQ by its lethargy and failure to recognize the need for progress and conformity to law has outlived its usefulness. It takes the further position that an organization, operated by authoritarian methods, is contrary to the spirit and methods of science.

There must be a new and functional Board of Continental Directors, freely elected by the Members. The Organization must be reconstructed so that the final power resides in the hands of the members, instead of in one man. That is the only safe repository for power in any organization. A system of functional alignment must be set up that will make impossible in the future the malpractices and obstruction that have kept Technocracy small, weak and ineffective for 16 years.

Advancing on All Fronts

"Ethyl" gasoline first went on sale in Dayton, Ohio, in 1923. Since then over 65,000,000,000 gallons of it have been sold. It is estimated by men in the oil industry that the use of "Ethyl" has increased mileage per gallon more than 25 percent, resulting in a saving of more than 1,000,000,000 barrels of oil for the nation. (Data from Chicago JOURNAL OF COMMERCE, February 2, 1948.)

In the last 15 years since the Soil Conservation Service has been pushing the shelter-belt program about 300,000,000 trees have been planted on over 45,000 farms. Rows of trees slow down and break up soil-sweeping winds. A row of trees 24 feet high will give direct protection to an area of land 20 times its height. It's a good idea as far as it goes.

Outline of the Two Suits Filed Against Technocracy Inc.

On October 26, 1948, Justice Aaron J. Levy, Justice of the Supreme Court of the State of New York, signed the ORDER TO SHOW CAUSE in the case of:

In the Matter of the Application of Albert W. Atwater and Charles S. Horan, Members of Technocracy Inc. for a Visitation of and by a Justice of the Supreme Court of Technocracy Inc., pursuant to Section 26 of the Membership Corporation Law.

The Order to Show Cause ORDERED that the Directors or Governors of Technocracy Inc. and Howard Scott, its Director-in-Chief, show cause at a Special Term, Part I of this Court, to be held on the 8th day of November, 1948, as to why they should not be required to

- a. Make and file an inventory and account of the property, effects and liabilities of Technocracy, with a detailed statement of its transactions during the 12 months preceding the order;
- b. Make and file an inventory and account of the property, effects and liabilities of the said Technocracy Inc. with a detailed statement of its transactions since April 8, 1933; the date of incorporation;
- c. Why the Directors or Governors should not be required to call a meeting designated as an Annual Meeting, to be held within thirty days after the date of this order and one of the purposes thereof shall be the election of officers and directors;
- d. Show why they should not be required to disclose the names and addresses of persons who constitute the Continental Board of Governors;
- e. Why they should not be required to disclose to the Membership the minutes of the meetings of the Continental Board of Governors;
- f. Why the Court should not appoint a Referee

- to take and state the account of the property and liabilities of said corporation; and
- g. Why the Petitioners should not have other and further Relief as shall be just and equitable.

On November 23, 1948, Justice Bernard Botein, Justice of the Supreme Court of the State of New York, signed the ORDER TO SHOW CAUSE in the case of

In the Matter of the Application of Madeline A. Briggs (and on behalf of 100 others similarly situated),

Petitioner,

vs.

TECHNOCRACY, INC.,

Respondent

(pursuant to Article 78, Section 1283-1306 of the Civil Practices Act)

Upon the basis of this Petition, the Continental Board of Governors of Technocracy Inc. is ordered to show cause why the Court should not order a 'rescinding of the action of the Continental Board of Governors of the Respondent, expelling your Petitioner and 100 others similarly situated as members of Technocracy Inc. and directing the respondent to restore the Petitioner and 100 others similarly situated to their full rights of Membership; or in the event a triable issue of fact be raised herein, for the trial of all such issues to the end that such final order may be granted; and for such other and further relief as to the Court may seem just and proper, with costs of the application.'

Two objectives were sought by these two suits. The first one would require Technocracy Inc. to function as a legal Membership Corporation, for the first time in 15 years. The second one would defeat and overrule the monstrous injustice perpetrated upon top functional members by Continental Headquarters.

Here's What the Supreme Court Said

The material below is a verbatim reprint of the decision of Justice Hecht of the New York State Supreme Court, in the matter of the Petition for a Visitation by a Justice of the Supreme Court, of Technocracy Inc., and in the matter of the Petition of M. A. Briggs (and 100 others similarly situated) for reinstatement in Technocracy Inc.

THE NEW YORK LAW JOURNAL, THURSDAY, DECEMBER 30, 1948

By MR. JUSTICE HECHT

Matter of Briggs (Technocracy, Inc.)—The petitioner's expulsion as a member of the respondent, a membership corporation, was effected without prior notice petitioner or a statement

of charges made against her or an opportunity to be heard. The expulsion was therefore illegal, notwithstanding the fact that the by-laws made no express provision for a hearing upon charges (see Gallaher v. American Legion, 154 Misc. 281,

aff'd. 242 App. Div. 604; *Glauber et al. v. Patof et al.*, 47 N.Y.S. 2d, 762). Section 20 of the Membership Corporation Law provides that the by-laws of a membership corporation may make provision "not inconsistent with law * * * regulating the * * * suspension and expulsion of members." Even if there were a bylaw permitting expulsion without notice of charges and an opportunity to be heard, such a bylaw would be invalid since it would be "inconsistent with law" (see *Gallagher v. American Legion*, supra).

The fact that membership in respondent corporation does not carry with it any pecuniary or material privileges or rights does not affect petitioner's right to an order in the nature of the former order of mandamus. An order of mandamus was granted in *Matter of Gallagher v. American Legion*, (supra) notwithstanding the fact that membership in the Legion does not confer any material or property rights. Cases such as *Dusing v. Nuzzo* (177 Misc. 35), *Grassi Bros. Inc. v. O'Rourke* (89 Misc. 234), and *Wachtel v. Benevolent Society* (84 N.Y. 28) are inapplicable here since they involved plenary actions in equity relating to unincorporated associations and not to applications in the nature of mandamus relating to membership in a corporation organized pursuant to statute.

The contention that this is not a proper case for a representative proceeding seems, however, to be a valid one (see *Brenner v. Title Guar. & Trust Co.*, 276 N.Y. 230). The expulsion of each member was separate and distinct from the expulsion of each other member and the wrong done to each member is therefore an individual wrong. Although every expelled member may join as a petitioner in this proceeding (*Brenner v. Title Guar. & Trust Co.*, supra, pp. 236-7), the case is not a proper one for the maintenance of a representative action, the purpose of which "is to permit an adjudication of a question in which others who are not parties to the action, though they might be made so, are interested" (*Brenner v. Title Guar. & Trust Co.*, supra, p. 237). In a representative action or proceeding the judgment order is conclusive for and against the members of the class represented, in the absence of fraud or collusion, a result which could not be extended to the entirely separate claims of the respective members. The case of *Jones v. Healy* (185 Misc. 400), cited by petitioner, is distinguishable in that there the rights of a class were affected by a single appraisal, whereas in the instant case each member's expulsion was separate and distinct from that of every other member.

The cross-motion to dismiss the petition is accordingly granted only to the extent of striking from the petition all allegations relating to members other than the petitioner. In other respects the cross-motion is denied. A misjoinder of parties is not a ground for dismissal of the com-

plaint but only for correction thereof (see Rule 102, R.C.P.). The other contentions made in support of the cross-motion are without merit since, as previously observed, the expulsion of a member by a membership corporation without opportunity to be heard upon charges is contrary to settled principles of law.

The application for an order directing petitioner's reinstatement is granted.

Settle Order.

MATTER OF ATWATER— Although the answer denies that petitioners are members of the respondent corporation, no facts are set forth in support of the denial that petitioner Horan is such a member.

As to petitioner Atwater there is no showing that his alleged expulsion as a member was made after notice of a hearing and an opportunity to meet charges made against him (see memorandum filed in companion proceeding, *Briggs v. Technocracy, Inc.*, decided simultaneously herewith).

The first item of relief sought is that respondent be required to make and file an inventory and account with a detailed statement of its transactions during the last twelve months. This relief is sought pursuant to section 26 of the Membership Corporations Law. The only one of the grounds for the granting of such relief specified in section 26 (supra) which could possibly apply to the instant application is that the directors or officers have misappropriated funds or property of the corporation. Section 47 of the Membership Corporations Law prohibits a director or officer from receiving, directly or indirectly, any salary, compensation or emolument from the corporation unless authorized by the corporate bylaws or by the concurring vote of two-thirds of all the directors. Paragraph 9 of the petition alleges that Scott, one of the directors, has caused corporate funds to be paid to himself for subsistence and has received excessive compensation in the guise of an expense account without proper authority. The bylaws do not confer such authority and it is extremely doubtful, to say the least, that such authority has been conferred by the requisite vote of the directors.

As to item I of the order to show cause, the motion is granted to the extent of directing a trial of the issues raised (1) as to petitioners' membership and (2) as to whether Scott caused moneys to be paid to himself without the concurring vote of two-thirds of the board of directors.

The second item of relief applied for is that the corporation be required to make and file an inventory and account containing a statement of all its transactions since April 8, 1933, the date of its incorporation. There appears to be no authority for the granting of such relief and

the motion, as to this item, is denied, but without prejudice to an application for the inspection of the corporate books (see *Dauids v. Sillcox*, 66 N.Y.S. 2d, 508; *Matter of Steinway*, 159 N. Y. 250).

The third item of relief asked for in the order to show cause is that the directors call a meeting for the purpose of electing officers and directors. Petitioners do not require such an order. They possess an adequate remedy without judicial intervention, for section 22 of the General Corporation Law permits any member to call a meeting for the election of directors under the conditions which obtain here. Section 22 (supra) is applicable to a membership corporation since its provisions are not in conflict with any provision of the Membership Corporations Law (see Sec. 6. General Corporation Law). The motion, as to item 3, is denied.

The fourth and fifth items of relief applied for are the disclosure of the names and addresses of the board of governors and a disclosure of the minutes of the meetings of the board of governors. As to items 4 and 5 the motion is granted (*Dauids v. Sillcox*, supra; *Matter of Steinway*, supra). This branch of the application seeks an order in the nature of the former order of manda-

mus and is therefore controlled by article 78, C.P.A. A motion under that article is similar to a motion for summary judgment pursuant to Rule 113, R.S.P. An opposing affidavit must set forth evidentiary facts raising a triable issue (*Matter of Ackerman v. Kern*, 256 App. Div., 626, 630, aff'd 281 N. Y. 87; *Matter of Doherty v. McElligott*, 258 App. Div. 257, 260). The answering papers fail to set forth evidentiary facts establishing bad faith on the part of petitioners and, as pointed out in the opening paragraph of this petition, they likewise fail to set forth facts showing that petitioners, who were concededly members (paragraph VII of the answer), are no longer such.

The sixth item of relief applied for also invokes Section 26 of the Membership Corporations Law. As to this item the motion is granted to the extent of directing a trial of the issues as to which a trial has been ordered under item 1 (supra).

Except as above indicated, the objections to the proceeding pleaded in the answer, are overruled.

Final determination of the motion as to items 1 and 6 will be held in abeyance pending the trial of the issues above referred to.—Settle Order.

(End of Decision)

Points cited in the Judge's Decision

Briggs reinstated; other dismissals declared illegal	}	In order to understand the ruling of the Justice, the points in the Show Cause Order of the two petitions are reprinted below. In the <i>Matter of Briggs</i> , the show cause order had only one item. That was the reinstatement of M. A. Briggs (and 100 other similarly situated) to good standing in Technocracy.
Directed a trial to be held	}	In the Visitation Petition, called in the decision the " <i>Matter of Atwater</i> " the items are as follows:
Denied	}	(1) To make and file an inventory and account of the property, effects and liabilities of the said Technocracy Inc., with a detailed statement of its transactions during the twelve months next preceding the date of this order.
Denied as unnecessary. Any member can call an annual meeting		(2) To make and file an inventory and account of the property, effects and liabilities of the said Technocracy Inc., with a detailed statement of its transactions since April 8, 1933, the date of incorporation of said Technocracy Inc.
Granted	}	(3) To call a meeting designated as an annual meeting, to be held within thirty (30) days after the date of this order and one of the purposes thereof shall be the election of officers and directors.
Granted		(4) To disclose the names and addresses of persons who constitute the Continental Board of Governors.
Directed a trial to be held	}	(5) To disclose to the membership the minutes of the meetings of the Continental Board of Governors.
		(6) Why the Court shall not appoint a Referee to take and state the account of the property and liabilities of said corporation.

Men May Come and Men May Go

by R. B. Langan

Somewhere, not far ahead, the social road on which North America is traveling will reach an intersection. Two well marked branches lead off in either direction, to the right and left. One goes toward the futility of communism. The other leads toward the social tragedy of fascism. However, the people of North America need not take either one of these roads. There is a third road, going straight ahead, which leads toward a culture of abundance, security, and equal opportunity for all. This highway is marked as the Social Aspect of Science. It is the correct road to the New America of Tomorrow!

When In The Course of Physical Events

The ideas of the social aspect of science first became prominent in North America during the depression-ridden 1930's. They came like a fresh breeze blowing over the land, bringing a promise of relief to the people who were sunk in the depths of social problems for which there seemed no solution. These ideas foretold of better things. They pointed the way toward permanent release from the age old miseries characteristic of the Price System of Trade and Commerce, under which mankind has existed since the dawn of history.

The social aspect of science is something new under the Sun. It makes up a body of thought whose time has arrived. This means that before these ideas could come into existence certain prerequisite conditions had to be established. There had to be a body of scientific knowledge. There had to be a continental area rich in natural resources. There had to be a highly developed technological system. There had to be a large body of scientists, engineers, technicians, and skilled personnel to design and operate the technological equipment.

All these prerequisite conditions exist in North America. It has the resources, the men, machines, equipment, and know-how with which to design and operate a new social system which will be able to produce and distribute abundance, security, and equal opportunity to all citizens. It is around these facts that this new body of thought revolves, and since it came from the general fund of scientific knowledge, it is correct to call it the Social Aspect of Science.

However, there also exists on this continent a Price System type of civilization, with ancient traditions and rules of operation, opposed to the new concepts composing the social aspect of science. The Price System is hypothesized upon scarcity, valuation and exchange. It must have these or die. This system developed around long existing conditions of natural scarcity, handicraft-agrarian methods of production, and private enterprise methods of distribution. From this foundation arose our social institutions as they exist and operate today, and our concepts of philosophy, morality, ethics and social controls.

In the clash of dual interests and physical factors lies the core of the North American social problem today.

On one hand there exists all the potentialities for a far higher social system than ever before existed on this earth. On the other hand there exists a type of social operations whose structure and operating rules are opposed to these potentialities.

Out Of This Soil

The ideas of the social aspect of science came into existence because their time had arrived. They were not created by any one man or set of men. Since they are the integration of known physical facts into an aggregate of social thought, they are operational concepts derived from the physical world. Hence, they are the product of events. If the particular combination of events giving rise to these ideas had existed in any comparable continental area a thousand years ago, a similar body of thought would then have arisen.

Men cannot create out of thin air a body of thought applicable to the solution of social problems. Such ideas must be related to things in the physical world around us. Solutions to problems in this world can be found only in the elements of those problems. The elements of the North American social problem today revolve around the impact of science and technology, in the last few hundred years, upon the ancient Price System.

By observation, research and experiment men discover the functional relationships between the elements of social problems. Then, by induction and deduction, they may elaborate generalizations, or social laws. However, they cannot establish social laws by fiat. The functional relationships establish the laws; they are the laws.

TO SAY THAT ANY ONE MAN'S CONCEPTS HAVE CREATED NEW PRINCIPLES OF SOCIAL OPERATIONS IS FALSE.

The social aspect of science is the product of the advance of science and

the concomitant trend of physical events produced thereby. It can be defined further as a reasoned exposition dealing with the impact of science and technology upon the Price System, together with the application of scientific knowledge to solve the social problems produced by the failure of the Price System to adjust itself to that impact.

The social aspect of science is based upon what we actually know and have now, plus what it is known we can do with more of the same. It is not a utopian dream. It is the projection of North America's historical development along the same trends that have been operating toward their logical conclusion in a new social system which will provide a tremendous and long-lasting increase in the General Welfare of all citizens.

It is obviously plain to every one outside of insane asylums that no one man could possibly have conceived a body of thought as towering as the social aspect of science. He would have to know all the world's science, all the world's history, and all the world's social problems. He would have to be all the world's greatest geniuses rolled into one. Only fakirs and frauds, or maniacs, make such claims. The fact is that many men have contributed to the social aspect of science.

Ideas Belong To All Men

Willard Gibbs (1839-1903), a shy professor of mathematical physics at Yale University, did basic work in energy, entropy and thermodynamics, which is applicable to social problems today. Thorstein Veblen (1875-1929), North America's greatest economist, dissected many of the operating rules of the Price System and gave this social system its correct name. Harry Elmer Barnes, historian and sociologist, has ripped the mask from much of our contemporary culture and

shown its real manipulations. Raymond Pearl, American biologist, introduced quantitative principles into biology and clarified principles of dynamic equilibrium applicable to social systems as well as insects. Frederick Soddy, English chemist, has advanced basic concepts of the role of energy in social life.

Ivan Pavlov (1849-1936), Russian medical doctor, established the principles of conditioned reflexes. William Graham Sumner (1840-1910), professor of political economy, contributed valuable sociological studies. Charles P. Steinmetz (1865-1923), a German-American electrical engineer, blended socialist ideas with concepts of modern technology. Edward Bellamy (1850-1898), U. S. lawyer and writer, pictured a projection of North American civilization which has become a literary classic. Clerk Maxwell (1831-1896), Scotch physicist; Charles Darwin (1809-1882), English naturalist; Max Planck (1858-1947), German physicist; and numerous others contributed to the formation of the social aspect of science. Perhaps they did not realize that such a body of thought was in the making for when you are surrounded by trees it is hard to see the forest.

The principles of the balanced load and full load operations are common engineering concepts. Revision of the calendar has been proposed for decades. Staggered hours of work in industry have been used to some extent for a long time. Most, if not all, the principles of social operation proposed for the New America of Tomorrow have been written about in scientific, technical and trade literature for a long, long time.

Underground power transmission has been used in Germany to some extent, for years. A continental system of inland water ways is a natural for North America. Just study any

good topographical map of the continent and you'll see what is meant. The multi-use projects of the Department of the Interior, and the river basin projects like TVA and MVA already have set the pattern for an overall hydrology plan for the whole continent. They are pilot models in a way.

The mythical 'Lake Albany' in Northern Ontario was outlined and diagramed by a Canadian engineer years before any organization, pretending to represent the social aspect of science, was started. As early as 1908 the Canadian Government surveyed and mapped a vast hydrology project in Quebec and Ontario, which can be tied in with an overall continental plan. Hydraulic lift locks have been in use in Canada for years. There are others in Germany. Canal systems as a whole were started and inland waterway transportation has been carried on in the U. S. for over a hundred years.

Long wall coal mining of a type has been in operation in Germany for a long time. The widening of railroad roadbeds from the present 4 feet 8 inches to 3 meters was proposed by railroad technologists years ago. Agro-technological units of 400,000 acres are an extrapolation of the long term trend in U. S. Agriculture. The so-called 'Urbanate' (the city of tomorrow) has been pictured in architectural and construction magazines for decades. And so on, down the long list.

If you go back to the sources of all the items in the analysis of the Price System of Trade and Commerce, you will find that they have been set forth in radical and other literature for generations. If you enumerate all the principles in the synthesis of the New America, you will find that these too exist either in the conglomerate literature of social protest, or in en-

gineering, professional, and scientific treatises of one kind or another.

There are literally mountains of research material available on the analysis of the Price System. There are other mountains of proposals for the operation of a scientific social system. The material is so voluminous that no one man could even begin to be familiar with all of it. To say that any one man created all this research material is sheer, sheepish idiocy.

Out of Many, One

None of the facts cited above are derogatory to the Social Aspect of Science. They do not detract one whit from its validity and supreme importance. Rather they add to it a luster and authority which could come only from the studies of thousands of known and unknown figures. From this widespread basis of support, we know that the facts involved have been checked and double-checked. This assures us that the social aspect of science is correct. It is heartening to realize that these ideas have their basis in the advance of science and technology and the support of many students. If it were otherwise, it would be fraudulent to call them the social aspect of science.

However, while what we have outlined is correct, it is also a fact that the social aspect of science is not yet an organized social movement. It is, so far, only a collection of ideas. What these ideas need is a touch of the North American genius for organizing. Up-to-date, no responsible effort has been made to do this. These ideas need to be consolidated into a coherent whole in the form of a design for a new social system. The material is all there.

During the 1930's, when the social aspect of science became widely known for the first time, a large number of organizations sprang up to exploit this

new field. It was a depression period and these ideas looked like a good meal ticket to a lot of smart chiselers down on their luck. Each one of these pseudo-scientific organizations, of course, claimed to be the real thing. They put on great airs. They played both sides of the street, pretending to be revolutionary and conservative at the same time. The suckers bit by the hundreds of thousands. Each and every one of these organizations, down to the last one, was a racket of one kind or another. Some were plain dues-paying rackets. Some were political rackets. Others were one-man private rackets, wherein some Poo-Bah ruled as a big fish in his own little puddle.

Among all the organizations that then sprang up, in not one single case was a serious effort made to set up adequate research facilities and build the correct operating mechanism necessary to consolidate the social aspect of science into a genuine social movement. Consequently, as times improved with the inauguration of the New Deal, these fly-by-night outfits folded their tents and disappeared. Those that remain are small and ineffective and are characterized by senile futility.

The field is still wide open in North America for an honest organization and a genuine social movement dedicated to the Social Aspect of Science. Such an organization and movement is the greatest social need in North America today.

The knowledge is here. The trained personnel is here. The natural resources are here. The technological equipment is here. The organizing ability is here. The social problems are here, and the people are waiting. The stage is all set.

What is needed now is a continental organization having its foundations in the principles of science, organizing

its operations on a system of functional alignment, and with the freely given consent of the human components involved aiming its program toward a complete new social system.

It Can Be Done With Science

Communism won't do for North America. Since it is a political ideology for the more equitable division of a natural scarcity, it belongs in the old world where natural scarcity still prevails. Besides that, its dictatorial methods of operation are repugnant to a people who have known civil and political liberties for many generations.

Fascism won't do for North America, either. In addition to being equally as dictatorial as communism, it adds the medieval putrescence of religious and racial discrimination and persecution. Fascism is a reversion of civilization to a lower order for the masses, with the freezing of special privileges for the blessed minority who rule over its cultural graveyard.

North America's social problems cannot be solved by either of these European ideologies. If they are attempted here, they will only worsen social problems. The only approach that will work here is the scientific approach. Science is not authoritarian nor arbitrary. Consequently, any organization pretending to represent the social aspect of science must deny the leadership principle. No paranoiac with a Jehovah complex can lead North America anywhere but to disaster. Look at what this idea did for Germany and Italy.

The social movement which will help to usher in the New America of Tomorrow will be in accord with the best traditions of North America's past and its technological present. No European ideology of any kind, either political, religious or philosophical, can do the job. The new social movement

will be non-political, non-sectarian, and non-profit. It will be a law abiding organization in fact. Its final powers will reside in the hands of its members. It will be organized along functional lines in such a way that no one man can ever capture control of it and subvert it to other purposes.

It will be an honest organization. That is, it will be exactly what it claims to be, no more, no less. It will have nothing to hide. It will make its position known at all times. It will be wide open to investigation by everyone, including its own members. Yet, it will be so well constructed that it will defy all attempts to wreck it either from the inside or outside.

It will draw its membership from responsible and intelligent citizens in all walks of life. No one will be barred on account of race, creed, color, economic level, or occupation. The only requirement for membership will be that one be an intelligent and responsible citizen. However, since North America is an embryonic technological civilization within the shell of the Price System, and since there are millions of citizens with some form of scientific training and technical skill, and since this body of citizens will have to take the lead in ushering in the New America of Tomorrow, the new social movement will largely be orientated toward them.

The new social movement will make use of modern research methods. It will be an educational organization pure and simple, and use the most efficient educational techniques. It will not compromise with the Price System, yet it will not cast blame upon individuals. It will steadily apply itself to its major objective of solving North America's number one social problem, the abandonment of the Price System, by preparing the people for the installation of a new system.

Yet, it will not isolate itself from the people's daily lives. It will not stand aloof from current secondary social problems, but will take a stand and fight for their amelioration, well knowing that their final solution depends upon the abandonment of the Price System. Thus, it will become a part of the people and their constant struggle for existence day by day.

It will not go in for prophecies of doom and promises of salvation. It will tell a straight story, without rancor or hatred, based on facts. It will not appeal to the crackpots who are looking for a Santa Claus type of something - for - nothing civilization. It will not reach out to the outer fringes of social thought to draw in the queer people who play around there. As dues payers, these members are worth only a dime a dozen. The new social movement will keep its feet on the ground of sound science.

Since all previous organizations,

pretending to represent the social aspect of science, have failed to convey these ideas to more than a corporal's guard of citizens, the new social movement will certainly not follow in their footsteps. It will think along new lines and strike out along new paths. It will not be related to anything that went before, or beholden to it in any way.

It will be the first social movement on this continent dedicated to the General Welfare of all citizens today, and the installation of a culture of abundance, security, and equal opportunity for all citizens tomorrow. It is to these ideas of the Social Aspect of Science that all North Americans owe their prime allegiance. Science and technology are what made North America great. They, and they alone, can make it still greater.

Men May Come and Men May Go,
but an Idea Whose Time Has Arrived
Will Have Its Way.

FACTS IN A NUTSHELL

DEMOCRAT—Political Tweedle dee of the Price System.

* * *

REPUBLICAN—Political Tweedle dum of the same.

* * *

PROPAGANDA—Baloney disguised so that it passes as food for thought.

* * *

REPETITION—Calling a Congressman an idiot.

* * *

HONEST MONEY—A crackpot's solution for the ills of the Price System.

* * *

HISTORY—A partial story of what happened told in the way it didn't happen.

Recent fossil finds in South Africa indicate that a direct ancestor of man lived there about 7,000,000 years ago.

* * *

A newly designed farm milking plant makes it possible for one man to 'grain-feed, wash, and milk 25 cows an hour.'—*'Farm Journal,'* January, 1948.

* * *

According to a Twentieth Century Fund survey, more than half of the fire equipment in use in the U. S. in 1942 was over 15 years old.

* * *

Only 9.5 percent of U. S. physical assets were under public ownership in 1930. In 1946 it was 20 percent. (*'U. S. News,'* September 19, 1947.)

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933.

OF GREAT LAKES TECHNOCRAT, published bi-monthly at Chicago, Illinois, for October 1, 1948.
STATE OF ILLINOIS } ss.
COUNTY OF COOK }

Before me, a Notary Public, in and for the State and county aforesaid, personally appeared R. B. Langan, who having been duly sworn according to law, deposes and says that he is the Editor of the GREAT LAKES TECHNOCRAT, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse side of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor and business managers are:

Publisher--Section 1, R. D. 8741 Technocracy Inc., 3165 N. Clark St., Chicago 14, Illinois.

Editor--R. B. Langan, 3165 N. Clark St., Chicago 14, Illinois.

Business Managers--None.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

Section 1, R. D. 8741 Technocracy Inc., 3165 N. Clark St., Chicago 14, Illinois, which is a chartered unit of Technocracy Inc., Continental Headquarters at 155 E. 44th Street, New York 17, New York, a non-profit, membership, educational organization, with no stock or stockholders. The Officers of Section 1, R. D., are Richard Starck, Director; Eve Pettit, Secretary; Lynn Dahlstrom, Chief of Staff; E. Nelson, Treasurer all with addresses at 3165 N. Clark St., Chicago 14, Illinois.

3. That the known bondholders, mortgagees, and other security holders owning or holding I percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant had no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

ROBERT B. LANGAN.

Sworn to and subscribed before me this 21st day of October, 1948.

JOHN J. MALLOY,
Notary Public.

(My commission expires August 6, 1950.)

ZERO

The above is a near accurate picture of the progress made by Technocracy in the 16 years under the "Strategic direction" of its one-man control policy.

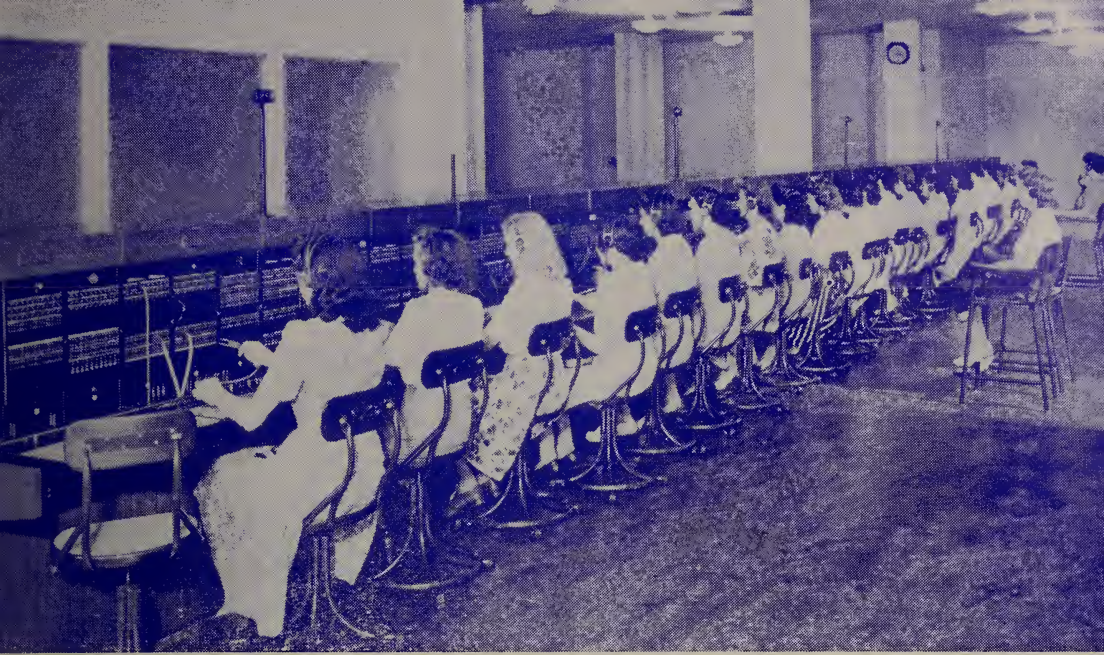


Photo: Illinois Bell Telephone Co.

Here is a scene that will disappear with the further growth of technology in the telephone industry. Crossbar dialing is coming in. It is 17% faster. Hand operators who are not on temporary status will be shifted to other jobs.

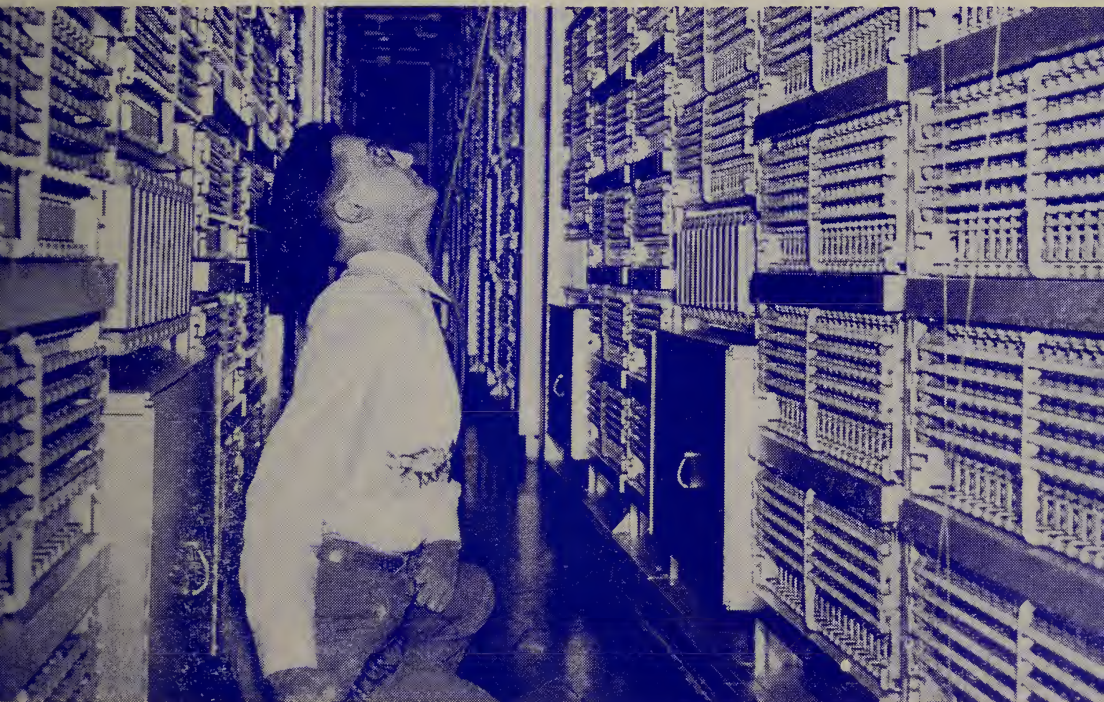


Photo: Illinois Bell Telephone Co.

A tug at a string cuts over old equipment to the new. Crossbar involves a maze of horizontal and vertical equipment like this. It is near 100% accurate. We salute this telephone technology and functional personnel.



Photo: Bureau of Reclamation

Here is the greatest concentration of hydroelectric energy in the world, over 1,000,000 hp. Each of these nine giant generators puts out over 100,000 kilowatts. It's the West Powerhouse of Grand Coulee. The East Powerhouse is as big.